When It's Complicated: Managing Diabetic Patients with Comorbidities

Article provided by Nestlé Purina

In this nutrition exchange, experts weigh in with advice and case studies.

Q. What are some of the more common comorbidities you see in dogs and cats withdiabetes? What is your approach to nutritional management?

A. Hyperlipidemia, which is especially common in canine breeds like Schnauzers, makes management of patients with diabetes difficult because it causes insulin resistance. Hypothyroidism is also common in dogs and must be ruled out when diagnosing hyperlipidemia. Inflammatory bowel disease (IBD) and chronic kidney disease (CKD) are other common comorbidities in both dogs and cats, while hyperthyroidism is common in diabetic cats.

I'd encourage practitioners not to be afraid to address comorbidities. Many veterinarians think, "I have a diabetic patient and I have to make sure he's on a low-carbohydrate food, even if he's in kidney failure." That's not the case.

For diabetic patients, there are two pathways for management: medical therapy, which usually means insulin therapy, and appropriate diet. Optimally, we can provide both. However, in cases where diabetes coexists with CKD, IBD or other intestinal diseases, it's a matter of using diet to nutritionally manage the patient for the disease in which diet could have a greater benefit. In a number of cases, I can manage diabetic patients with a little more insulin or switch to a longer-lasting or more potent insulin while using diet to manage patients for their GI or renal disease.

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Cases in Point: Taking a Customized Approach

Following are two hypothetical scenarios in which a common comorbidity was diagnosed and managed.

Case example #1: Diabetic dog with concurrent GI disease

Symptoms and diagnostic workup

- A diabetic dog that has been fairly well-regulated with insulin therapy suddenly starts losing weight or experiencing chronic vomiting or diarrhea, suggesting GI disease.
- Low albumin and low globulin indicate intestinal malabsorption syndrome, while GI tract imaging reveals thickening of the intestinal walls. Endoscopy and biopsy lead to a diagnosis of lymphocytic plasmacytic enteritis, a form of IBD.

Medical and nutritional management

- To help control the patient's diabetes, he has previously been placed on a high-fiber diet, which helps manage glucose absorption through the GI tract. However, because the patient's diabetes can be managed by increasing the insulin dose, feeding him for the GI condition should be prioritized.
- Consider switching from the high-fiber diet to a limited-antigen or hydrolyzed protein diet to manage the patient's GI disease.

Case example #2: Diabetic cat with renal disease and hyperthyroidism

Symptoms and diagnostic workup

- A diabetic cat that has previously been well-managed with a combination of diet and insulin develops weight loss and polyuria/polydipsia.
- Serial diagnostic testing revealing elevated BUN, creatinine and T4 with low USG confirm concurrent diabetes, CKD and hyperthyroidism.

Medical and nutritional management

- While cats with any of these three conditions can be prescribed therapeutic diets, each diet is different. And because nutritional therapy is so important for cats with kidney disease, I would choose a diet formulated for management of patients with renal disease.
- To promote fluid intake, switch the cat to a restricted-phosphorus canned renal diet that provides caloric equivalency to the diabetic management formula she was previously eating.
- Use insulin to medically manage the patient for diabetes and manage her for hyperthyroidism with methimazole or radioactive iodine.

The Building Blocks of a Diabetic Diet

While the nutritional management of dogs and cats with diabetes mellitus bears both similarities and differences, the most important thing to stress when feeding a diabetic pet is consistency. Whether a dog or cat, the patient should be fed a consistent diet, in consistent amounts on a consistent schedule that is coordinated with administration of insulin. Meanwhile, the levels of protein, fat and carbohydrate in the patient's diet may vary, depending on species and health status.

Protein. Because diabetes is a catabolic, wasting disease when left unchecked, diabetic dogs and cats should be fed diets replete in protein to help maintain lean muscle mass. The level of protein in the diet of a diabetic patient typically is not reduced unless the pet has a comorbidity (e.g., advanced renal disease) in which excessive protein should be avoided.

Fat. While an essential nutrient, the amount of fat in the diet of a diabetic pet varies, depending on the patient's body condition and whether or not he or she has a history of pancreatitis or hyperlipidemia. In uncomplicated cases, a complete and balanced diet formulated for the diabetic pet often is the best choice. If a dog requires a low-fat diet, the alternative may be to feed a weight management diet with reduced fat and increased fiber. For an overweight cat, the choice may be to feed either a canned diabetic formula, which typically is less calorically dense than a dry formula, or a weight management diet with reduced fat and increased fiber.

Carbohydrate. The recommendations for this nutrient differ between dogs and cats, although simple carbohydrates (e.g., monosaccharides and disaccharides) should be avoided in both species. Diabetic formulas for dogs contain complex carbohydrates and fiber to slow the rate of absorption of carbohydrate from the GI tract and

to reduce postprandial elevations in blood glucose. In cats, feeding a diet high in protein and low in carbohydrate can help with glycemic control. Again, the exception is the cat with a comorbidity that contraindicates this approach.

Other factors to consider in dietary selection include the formula's palatability. Because consistency of consumption is key to regulating blood glucose levels, ensuring the patient will eat the appropriate caloric amount of the recommended diet is essential.

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Feeding the Diabetic Patient: When Weight Management is the Goal

While an ideal body condition can aid in regulation of diabetes, a number of diabetic dogs and cats are either overweight or underweight. The following guidelines may be considered when making feeding recommendations of Purina® Pro Plan® Veterinary Diets for these patients. Once ideal body condition has been achieved, patients should be maintained on the same diet while continuing to monitor blood glucose levels.

Dogs

Underweight

Goal: To help the patient maintain lean muscle mass and achieve an ideal body condition.

What to feed: Purina® Pro Plan® Veterinary Diets EN Gastroenteric Fiber Balance® Dry Canine Formula, which contains high-quality protein, complex carbohydrates to help regulate blood glucose levels, and a moderate level of fat.

Overweight

Goal: To help the patient gradually lose weight while maintaining lean muscle mass.

What to feed: Purina® Pro Plan® Veterinary Diets OM Overweight Management® Dry or Canned Canine Formula or OM Overweight Management® Select Blend Canine Formulas are all designed to facilitate gradual weight loss while providing fiber to slow the absorption of glucose from the GI tract.

Cats

Underweight

Goal: To help the patient maintain lean muscle mass and achieve an ideal body condition.

What to feed: Purina® Pro Plan® Veterinary Diets DM Dietetic Management® Dry Feline Formula, which contains high protein and low carbohydrate levels in a nutrient-dense formula.

Overweight

Goal: To help the patient gradually lose weight while maintaining lean muscle mass.

What to feed:

- If a low-carbohydrate formula is preferred, feeding Purina® Pro Plan® Veterinary Diets DM Dietetic Management® Canned Feline Formula in carefully controlled amounts can be recommended.
- If the cat has a slow metabolism, Purina® Pro Plan® Veterinary Diets OM Overweight Management® Feline Formulas can facilitate gradual weight loss and a high nutrient-to-calorie ratio.

Make Feline Diabetes Manageable for Clients

Informing a client that his or her cat has diabetes can evoke a range of reactions. Those with no diabetes experience usually say, "Oh no! Is it treatable?" while clients who have had another diabetic pet or a diabetic family member—after shaking off their disbelief—are more likely to say, "What can we do?" In both cases, education and support are key to moving them from asking questions to taking positive action.

The single most important point to convey is that the pet can have a good to excellent quality of life once the condition is well-controlled. It does take vigilance, but I assure clients that our clinic staff members and I are here to encourage and support them.

Training inspires client confidence. Most clients are concerned about doing insulin injections. I walk them through the injection process and stress that the small insulin needle and the relative ease of giving subcutaneous injections make the process much simpler than they may assume. I always have them perform an injection in front of me so I can point out any pitfalls (e.g., drawing up air instead of insulin, shaking the bottle or not getting the needle in the right place in the skin).

If clients leave the office with insufficient information, they may turn to "Dr. Google" and read something online that is either not appropriate for their cat's specific needs or just plain wrong. I give all owners a three-page handout about feline diabetes that includes sections on the pathophysiology of the condition, in-clinic and at-home monitoring, insulin administration, and dietary guidelines.

A high-protein, low-carbohydrate diet regulates blood glucose. I recommend Purina® Pro Plan® Veterinary Diets DM Dietetic Management® Feline Formula because of its high protein and low carbohydrate content, and I ask clients to meal feed their diabetic cats twice a day. I prefer that cats be on DM Feline canned formula for mealtime feedings, with DM dry available in a measured amount throughout the day if they are snackers, but I adapt to the specific pet's needs and family dynamic.

My main objective with overweight or obese diabetic cats is to have them build lean muscle mass and achieve a healthy body condition, which makes it easier to regulate their blood glucose with insulin. I also use the Purina online Feeding Guide to help map a patient's nutritional requirements based on factors such as age and body condition.

Frequent check-ins keep cats on track. I inform clients that they will need to bring their cat into the clinic for regular monitoring. After starting a cat on insulin, I check a blood glucose curve in 10 to 14 days and adjust as necessary, then recheck it in another 10 to 14 days. I perform a blood glucose curve along with a fructosamine level every three to six months on a well-regulated diabetic cat, sometimes adding urinalysis for a more complete picture.

I check in as needed with clients to make sure they are administering insulin correctly and appropriately feeding their cats. Caring for a diabetic cat has added responsibilities, but an informed client is willing to make the investment. Knowing that our staff is there to help them through the process is key to success.

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Key Takeaways

- Diabetic patients can be managed with medical therapy and diet. When diabetes coexists with CKD, IBD or other intestinal diseases, veterinarians should use diet to nutritionally manage the patient for the disease in which diet could have a greater benefit.
- Feeding diabetic dogs and cats a consistent diet, in consistent amounts, on a consistent schedule is one of the most important strategies in nutritional management of these patients.
- From learning injection technique to understanding dietary compliance to conducting routine monitoring, clients of clinics that offer strong support and training can provide their diabetic pets the best possible quality of life.