

## There is a New A1C Test for Diabetic Pets

Posted by Dr . Joi Sutton | Jun 1, 2017 | Pet Care, Pet Diabetes, Pet Newsletter



Recently a new test for pet diabetes became available. It is the hemoglobin A1C for dogs and cats. I think there are definitely some situations where this test will be good for veterinary patients, but please don't throw out your glucose meters just yet. A blood glucose curve is still my preferred test to evaluate glucose regulation in diabetic pets.

Doctors use the A1C test for humans as well. This test gives us a reflection over the recent past as to what the patient's blood glucose has been. It is a longer "look" at past blood glucose than the fructosamine test that we veterinarians have had in our toolbox for years.

A blood glucose reading from a blood glucose meter tells us what the blood glucose is at a moment in time. A fructosamine test gives us an indication of what the blood glucose regulation has been over the previous few weeks. The new hemoglobin A1C test gives us an indication of the blood glucose over the last 110 days for dogs and over the last 70 days for cats.

### **What Might be a Good Time to Use a Fructosamine or A1C Test?**

Fractious pets that won't allow a blood glucose curve at home or even in the clinic would be reasonable patients to forego a curve and settle on one of these tests. If a pet would harm the owner (while attempting a blood glucose curve) or if the pet becomes so stressed at a vet clinic that a blood glucose curve is tarnished with stress hyperglycemia, an A1C test can be helpful. Given the average situation, a relaxed pet who will allow blood glucose checks by owners, is the better option as I'd still much rather evaluate a blood glucose curve. Curves give us better information as to what we should do next!

Life is easier when pets can receive the same dosage of insulin every 12 hours. It's less costly and a whole lot easier for diabetic pet owners than adjusting the insulin dosage based on the blood glucose right before the insulin dose. More often than not, we can give the same dosage of insulin each time. Nonetheless, now and then I find a patient that just doesn't seem to follow the rules and the owners have to check the blood glucose before each insulin injection and adjust the insulin dose based on that reading. Agh!!! When I have one of these patients, even though I continue to urge blood glucose curves, an A1C test (or fructosamine test) might help us know how well we are doing overall.

Oftentimes owners resist purchasing a blood glucose meter. And yet, it really matters to me that my clients with diabetic pets are able to check a blood glucose on their diabetic pets at home! I'm sneaky, so I give financial incentive to families to run home curves. I make my pet owners buy a blood glucose meter starter kit whenever I diagnose a diabetic. I can nearly always educate them so that they can do the curves themselves and text me or email me their numbers after a curve. I tell them it will save them the money of my staff checking glucose values and the recheck exam fee when we run a curve in the clinic! Even if they don't think they can run a curve at home, I tell them if they force me to do a glucose curve in my clinic, rather than at home, I will charge them half the price if I use their meter and strips compared to when using my clinic glucose meter. That offers them financial incentive to at least buy a meter. On my initial re-checks I show them repeatedly how to use the meter and usually then even the most hesitant clients recognize that it's not rocket science to check their pet's blood glucose. I rarely have clients who make me run the curves at my clinic because I show them how easy it can be!

## Now, Why Do I Always Harp on About A Blood Glucose Curve?

Running a curve means checking the blood glucose every 2 hours from one insulin injection until the next, 12 hours later. For example, if you typically give Fluffy insulin and food at 7 am and 7 pm each day, you would check a blood glucose and give the insulin and food all at 7 am. Then at 9 am you will check the blood glucose. You will check the blood glucose every 2 hours until 7 pm UNLESS the blood glucose goes below 150 mg/dl. If it drops below 150 I like folks to check it hourly until it starts to rise. By increasing the frequency when it gets lower we hopefully won't miss the "nadir" (where it bottoms out). We want to run a curve on a day that is as close to "normal" as possible. If crazy Aunt Sue with her 3 dogs is visiting, then wait! If there are fireworks or construction work outside that might affect your pet's appetite, then wait! Pick a day that is "normal" for your pet.

Why do we want to know the nadir? The nadir tells us if we should increase or lower the insulin dosage. I like the nadir to be around 100 mg/do, but honestly, if we can get it anywhere in the 80 to 150 range I'm pretty pleased. I also like most of the numbers to be below 300 mg/dl. Why do I choose that number? The glucose threshold in the kidneys (when it starts to overwhelm the kidneys' ability to pull out fluid from the filtrate that becomes urine) is around 300 mg/dl. If most of the glucose numbers are below 300 we won't have a diabetic pet peeing and drinking excessively. That results in a better quality of life!

Fructosamine test results tell us in broad categories if the diabetes control is fair or good or poor. A1C test results report as normal, pre-diabetic or diabetic. The lower the number the better diabetic control for the A1C test. Running a fructosamine test or an A1C test is pricey compared to checking a blood glucose. In the big picture, someone with a diabetic pet can usually buy a blood glucose meter and whole vial of test strips for less than either a fructosamine or A1C test may cost.

**Have a question or comment? Post below or email me at [joi.suttondvm@adwdiabetes.com](mailto:joi.suttondvm@adwdiabetes.com). I always enjoy hearing from my readers!**

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**NOTE: Consult your veterinarian first to make sure my recommendations fit your pets special health needs.**

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### Dr. Joi Sutton

Dr. Joi Sutton is a 1993 graduate from Oregon State University. She has practiced both in emergency medicine and general practice. Dr. Sutton has done extensive international volunteer work through Veterinary Ventures, a nonprofit organization that takes teams of veterinarians to undeveloped countries for humane medical care. She also runs a small animal practice in South Florida.

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