

Living with a Diabetic Dog

compiled by Susan Saulvester

Owners of Australian Terriers have been aware that our breed has a higher than normal incidence of diabetes and other endocrine diseases since the breed was in its formative years. It has become more prevalent and more of an issue for owners since the breed has become more popular and our numbers have grown. This disease is being diagnosed more efficiently and the internet certainly makes it more visible than it used to be. The August 2011 issue of The Whole Dog Journal refers to a study done by Banfield Hospitals which states that the incidence of diabetes in all breeds has increased by almost 1/3 since their last study done in 2006.

The following article is written by ATCA members with over 110 combined years in ATCA, and each one lived with one or more diabetic Australian Terriers during this time. This article is not intended as medical advice. Consult with your veterinarian before making any change in the daily schedule of your diabetic dog. The suggestions offered can make living with a diabetic dog easier and less costly, and with good care and owner commitment, most diabetic dogs can be well regulated and live a normal lifespan.

- Susan Saulvester

Theories and Demographics of Diabetes

There are a number of theories on why our breed seems to be affected more by diabetes than some other breeds. In the early years the gene pool was quite small, resulting in closely bred pedigrees. There are theories that diet, the type and quantity of food used has been a contributing factor, as is age, since this almost always occurs in older dogs that unfortunately have completed their breeding career before being diagnosed. Having pancreatitis in the past, whether indicating damage to the pancreas or an inherent weakness in that organ may be a contributing factor. Overweight dogs, as in humans, may be predisposed to diabetes. It has been documented that the use of steroids for other conditions can result in dogs becoming diabetic soon afterwards. And with a deficient endocrine system come other related disorders such as Cushing's disease, Addison's disease, thyroid abnormalities, and the devastating Sudden Acquired Retinal Degeneration (SARD), which although it affects the eyes, is actually precipitated by adrenal exhaustion and other endocrine system imbalances.

Glucose Monitoring

Marilyn Harban

The most effective way in regulating your diabetic is to use a monitor and do testing at home. Monitors are often for sale for a relatively low cost. They require a test strip that is good for only one use. There are some monitors available now that require an extremely small droplet of blood. I found that the easiest method of obtaining a blood droplet was to clip a nail. Remember you don't need much blood so this is not a painful ordeal. A grinder will easily get to the quick if the nails are kept short. Other methods are a lip prick with the lancet and this produces a droplet of blood easily. Timing is everything with this method as the tongue can be very fast and multiple sticks may be needed initially while learning this method to get the blood on the test strip. Instructions can be found on the web for this method. It has been suggested that the ear is also a good place to stick. However, I never had much luck with this method.

Initially I did a blood glucose curve each Friday and gave my vet the numbers at the end of the day. This record included feeding times and amount fed. My vet adjusted insulin as needed over several months. Any change in insulin dose requires several weeks to stabilize. The weekly chart was helpful to see the progression as the glucose level came down into normal ranges. As time progressed I changed from feeding two times a day to four times a day as the glucose level tended to not spike with more frequent small feedings. I did home monitoring instead of having to take my dog to the vet every several weeks as it was easier for my dog and less stressful to her than spending the day in the hospital. The stress of being left at the vets all day can skew the results of the glucose curve.

After the initial weeks of monitoring I became more aware of my dog's behavior when her sugar was high and especially if her sugar level was low and monitoring was only as necessary. The additional expense of the monitor and test strips is offset by the benefit of a healthy controlled diabetic.



Living with a Diabetic Dog

Managing Diabetes by Diet

Sherrill Yates

Managing diabetes is as much (or more) about the food as it is the insulin. So many vets just give insulin and attempt to adjust that to what the dog is being fed. If the dog is given a low carbohydrate food, just like when humans change their diets for diabetes, then the dog (and the human) will require less insulin and be more stable. You have to remember the vet gets more money the more insulin you have to buy from them. It is far healthier to change the dog's diet and thereby reduce the need for so much insulin. Also, vets don't usually tell you that on dogs (not recommended on humans!) you can use those needles more than once. In fact, I usually used mine at least 2-3 days and it never caused a problem.

I made my own dog food for my diabetic and she only required 2-3 units of insulin twice a day. The last couple of years of her life she existed on 2 ½ cups/day of my turkey meatloaf with vegetables and quinoa. Before that it was an inexpensive cut of raw meat cubed with veggies and quinoa. That also made it far less expensive to manage and her blood glucose stayed very steady. The only treats she got were raw broccoli, green beans, green peppers, the occasional carrot, and a heavy whole wheat cookie at bedtime to offset the evening insulin. And I gave her a cat vitamin and milk thistle.



Moira at age 14

Keeping it Simple and Cost Effective

Susan Saulvester

In some states both insulin and syringes require a prescription. In other states, neither does. Of course your vet wants you to buy your insulin, syringes, and prescription food from him. But you may choose to do your shopping for diabetic supplies on the open market or internet. If your state does require a prescription then by all means ask your vet for these prescriptions and do some comparison shopping! In the early days all insulin was pork NPH. This was almost identical to the insulin made in dogs. Good for dogs but not too good for people. Then the pharmaceutical giants came up with recombinant DNA insulin, identical to human insulin, which was great for people and not too good for dogs. Then a company came up with Vetsulin, insulin just for dogs based again on the old pork NPH. This was great for dogs but then the FDA recalled it. The most common brand of insulin for dogs is now Humulin N or Novolin N depending on the manufacturer. Eli Lilly makes Humulin N in the US but they also make the identical product for Wal Mart under the Wal Mart label. It can be gotten at any Wally World or Sam's Club. My last bottle cost \$24.95, not taxed in GA, and I use it for about 6 weeks. This is one-half the cost of the same product with the Lilly label on it purchased at a chain drug store. I order syringes from www.americandiabeteswholesale.com. They have a whole section on pet testing and supplies.



"Barney Saulvester"
completed his CDX title
after being diagnosed with diabetes"

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I use lo dose U-100 syringes and a box of 100 costs \$16.99 with about \$5.95 for postage, and of course, I use them more than once. They also offer strip monitors and testing supplies on line at a discounted rate. I am told that some pharmacies like Walgreen's and CVS will let you purchase a family plan drug card for the year and will include your pet's needs on it as well. By shopping around one can keep the cost to a modest amount each month. I have never done home monitoring but do keep urine test strips in case I need to know if the glucose goes especially high or very low. I home cook and do not use any of the so called prescription diets and the diabetic dogs I have had in the house over a 40 year period (one being a rescue) lived a normal life span, did not develop diabetic retinopathy and diabetes was not the cause of their deaths.



Living with Diabetic Dogs

Darlene Evans

My first diabetic dog, Chelsey, was the love of my life. It was so difficult for me to know that each I day I was going to inflict pain on her. I started by doing her injections prior to her two meals and give her a kiss and told her "this is for life". Chelsey would look up at me and then give me a kiss- "everything is OK".

I learned early on that the best way was to be consistent. I always fed and gave her injections at the same time every day. Yes, my life revolved aground where I would be between 6-7 AM/PM. How could I do anything differently because she gave me nothing but love and joy?

Not knowing that Chelsey was going to become diabetic, I bred her and got two puppies: Daisy Mae and Li'L Abner. One day the day care person for my Mom allowed Daisy Mae and Li'L Abner get together when they shouldn't have. This combination produced 2 puppies, Alley Oop and King Guz who both became old age diabetics.

I had bred Daisy Mae again and none of the puppies from that litter—who are now 10 years old—have become diabetic. All of the dogs from Chelsey have now been spayed or neutered and therefore that history is now over.

Here is what I have done to allow me to live with three generations of diabetic dogs: My food is Eukanuba Lite. No treats. No other food. I would give them 1 cup of this food twice a day. At this time frame, several years ago, there was no food that was grain free. If I had a diabetic dog now I would look into a food that had no grains included. If you are a human diabetic you are encouraged to reduce carbs, eat more protein, and exercise more. I believe (and I would like to emphasize that this is only my opinion) that if we do for our dogs what is recommended for humans we would be ahead of the game.

I would take my dogs in about every six months for a glucose curve to ensure that the amount of insulin given was correct. You need to have confidence in the vet that you are seeing and have one that is interested in your ideas and thoughts on caring for your dog.

Because I do not look forward to having another diabetic dog I have been far more conscientious in what I feed my growing dogs. It is difficult to live with a diabetic dog. It is more difficult that living with a normal dog, but you are giving back to that dog everything that he/she has given to you in the past. I do not regret any of the time that I gave to my diabetic dogs.



Insulin & Food - by K9 Diabetes

Take a deep breath.

Diabetes in dogs is almost always manageable and, with good care and monitoring, your dog can live a normal, healthy lifespan.

It can take a few months to get to “cruise control” so don’t worry if your dog isn’t instantly regulated. At the same time, good regulation is invaluable to your dog’s health and well-being so it’s worth pursuing.

The main adjustment you will need to make is to get into a routine of feeding your dog at the same time every day, usually two meals and insulin injections a day 12 hours apart.

Every dog is different. The trick is to find out what works best for your dog. You and your vet can vary the kind of insulin, diet, and timing of meals and injections to find the right combination. And remember, diabetes is something people manage every day for themselves. It’s actually easier with a dog in that you have a lot of control over what they eat! So managing your dog’s diabetes does not have to be a mystery. You can learn to manage your dog’s treatment and monitoring.

A Race for Balance

Elsewhere we defined “good regulation” of diabetes as the best blood sugar levels your dog can achieve safely. That is, with little risk of low blood sugar (hypoglycemia, which occurs at less than 75 mg/dL). With injections you are seeking to replace a very sensitive body system that adjusts the amount of insulin available moment by moment with an artificial system that provides a few injections of insulin a day and meals that deliver sugar into the bloodstream as they are digested.

So insulin and food are an issue of balance. Kind of like a race... a relay race really, because there is constant processing of the food and the insulin throughout the period of time between meals and injections. The finish line is the bloodstream. Sometimes the food team is ahead, sometimes the insulin. If the insulin gets ahead of the food being digested and turned into glucose, your dog’s blood sugar can drop too far too fast. If the food gets ahead of the insulin, your dog’s blood sugar can rise too far too fast.

A tie is what you want - food and insulin being delivered in balance, giving your dog a steady supply of glucose in a good range throughout the day.

This is an example of a good balance of food and insulin in a diabetic dog. The level of glucose in the bloodstream stays fairly stable and there is little difference between the highest level and the lowest level.



Keep a Daily Log

A good way to see how your dog’s regulation is coming along is to keep a daily record of what and how much you fed him and how much insulin he was given in his injection. You can use a notebook, a computer spreadsheet, or a calendar to keep your notes, which will allow you to look back over time to see what worked well and what didn’t and trends in your dog’s blood sugar in response to his diet and insulin. You can also track other medications given, how much water she drank, what her general demeanor was... anything you think might be useful to have recorded.

Insulin

Following is a brief summary of some of the key points about the insulins most often used with diabetic dogs.

Dogs have tended to do best with an intermediate acting insulin. At this time, the two insulins primarily used with dogs are:

In the United States:

NPH (Neutral Protamine Hagedorn) and Vetsulin (same product as Caninsulin) – NOTE: In 2010, Vetsulin was pulled from the U.S. market after an alert issued by FDA and to date, it remains unavailable.

Insulin & Food

In Canada:

NPH (Neutral Protamine Hagedorn) and Caninsulin (same product as Vetsulin)

In Europe, UK, Australia:

Isophane (same as NPH) and Caninsulin (same as Vetsulin)

Other Insulins Being Used:

Some dogs have been put on glargine (Lantus) in recent years and some of them have done well using it either alone or with a faster acting insulin. But glargine's reliability as an insulin for dogs has not been demonstrated and its use remains limited.

In 2010, with the absence of Vetsulin in the U.S. market, more veterinarians are beginning to try Levemir (Detemir) in dogs. The insulin has both potential and limitations. It can be helpful for dogs who do not get a full 12 hours from NPH. But Levemir is four times more potent in dogs – 1 unit of Levemir is approximately equal to 4 units of NPH for them – so it is problematic to give such a potent insulin to small dogs who need small doses and to dogs who are very sensitive to small dose changes. Other potential problems include overlaps if the insulin lasts longer than 12 or 24 hours. And, like all insulins, there is a tremendous amount of variation in how an individual dog absorbs the insulin and puts it to work.

NPH

NPH insulin goes by a handful of names [Canine Diabetes Wiki].

In the U.S. and Canada, it's typically called NPH or N.

Elsewhere it is also known as Insulatard, Insuman Basal, and Humulin I.

The NPH insulin family is a genetically-engineered version of the human insulin molecule. It is an intermediate acting insulin that uses protamine, a protein from fish, to delay the absorption of the insulin so that one injection can have a measured effect on blood glucose over 8–12 hours in dogs. As a human-type insulin molecule, this insulin differs slightly from a dog's natural insulin.

This can result in some resistance to the insulin because the dog's body sees the insulin molecule as foreign. But that resistance can also be helpful in slowing the insulin's absorption, allowing it to have an effect on blood glucose for a longer period of time.

NPH is generally given twice a day - an injection with a meal every 12 hours - and provides control of the dog's blood sugar level for about 8–14 hours.

It is a very popular insulin for treating diabetic dogs as it has a very good track record of providing good blood sugar control, is less expensive than newer insulin formulations, and can be purchased without a prescription.

Walmart sells this insulin as Relion N (Walmart packages the name brand product) for significantly less.

Vetsulin / Caninsulin

Vetsulin / Caninsulin is a lente type insulin in which absorption is delayed by suspending the insulin molecule with zinc in a crystalline structure. Put very simply, the larger the crystalline structure is, the longer it takes the body to break the insulin out of that structure so it can be used. Lente insulins are intermediate acting insulins. They are a mixture of 30% semilente (a micro-sized zinc insulin crystal) and 70% ultralente (a large zinc insulin crystal). Once injected, the 30% semilente crystals are processed first and then the 70% ultralente crystals enter the bloodstream later.

This insulin molecule comes from pigs and is chemically identical to a dog's natural insulin molecule. This typically results in no immune system reaction as the body recognizes the insulin molecule but also can make a dog more sensitive to the insulin because there is no resistance from the immune system.

NOTE: In 2010, Vetsulin was pulled from the U.S. market after an alert issued by FDA and to date, it remains unavailable in the United States. Caninsulin remains available in Canada, the UK, and Europe.

Insulin & Food

Other Important Differences between NPH and Vetsulin/Caninsulin

Dilution / Syringes

Vetsulin is a more dilute insulin, with 40 units of insulin in 1 milliliter of fluid (called a U-40 insulin).

NPH is more concentrated, with 100 units of insulin in 1 milliliter of fluid (called a U-100 insulin).

Syringes used for each insulin are different and the U-100 syringes used for NPH insulin are more readily available and come in a greater variety of sizes and needle gauges.

It is possible to use the U-40 Vetsulin insulin in a U-100 syringe by converting the measurement of the fluid in the syringe. Information on how to make this conversion is available here. Most often the conversion is done because the finest gauge of needle that comes on a U-40 syringe is 29 while U-100 syringes come with needles two gauges finer, 30 and 31.

It is extremely important, however, when doing the conversion to know precisely how many international units of insulin you are giving your dog so that you can communicate the number of units of insulin being given to veterinary personnel. The consequences of not understanding the difference between marks on the syringe and units of insulin can be lethal for your dog in an emergency situation.

The two dilutions are valuable for different reasons. More dilute insulins like Vetsulin are useful for small dogs who may need just a unit or two of insulin. With less insulin per drop of fluid, it is easier to measure fractions of a unit of insulin or even less than 1 unit of insulin with the U-40 Vetsulin. In large dogs, however, the more concentrated insulin means large numbers of units of insulin can be injected using a relatively small amount of fluid.

Food / Diet

Limiting simple sugars and carbohydrates is an important part of matching the digestion of food with the absorption of injected insulin.

Foods that are digested too quickly, as simple sugars and carbohydrates are, generally cannot be matched to a dog's absorption of the insulin, even with faster acting insulin. The glucose from these foods speeds into the bloodstream far faster than the insulin can get there. And the result is that the dog will have very high blood sugar a few hours after eating - because the insulin hasn't caught up - and then could have dangerously low blood sugar six or seven hours later when the food is exhausted and the insulin is getting its second wind and sprinting for the bloodstream.

or many years, a high fiber diet has been the mainstay of veterinary prescriptions for diabetic dogs. Most prescription diets for diabetic dogs are high in fiber and low in fat. In recent years that approach has been relaxed and people are finding that there are many diets that can balance the insulin's action to give good blood glucose control throughout the day.

Nowhere is it more important to remember that every dog is different.

What works great for your dog can be a disaster for another dog.

Changing the diet is one good way to get a better balance between food and insulin and therefore better blood sugar control. Simple changes to the composition of your dog's food will shift the speed at which that meal is converted to glucose so it can stay neck and neck with the insulin.

If you find that the diet for your diabetic dog is not giving good regulation, talk with your veterinarian about changing it to find a better balance. If you choose to change diets, home blood glucose testing is recommended as you will need to be able to monitor the effects of changes in diet.

Very general rules, which many dogs feel free to break, are:

- Simple carbohydrates and sugars will raise blood sugar faster than insulin can be absorbed and used.
- Protein and fat tend to be digested more slowly, providing a less intense, longer lasting supply of glucose.
- Fiber can help slow down absorption of food to give more level blood sugar.

Insulin & Food

Assessing the Balance of Food and Insulin

A serial blood glucose curve is the best way to assess how well balanced your dog's diet and insulin is.

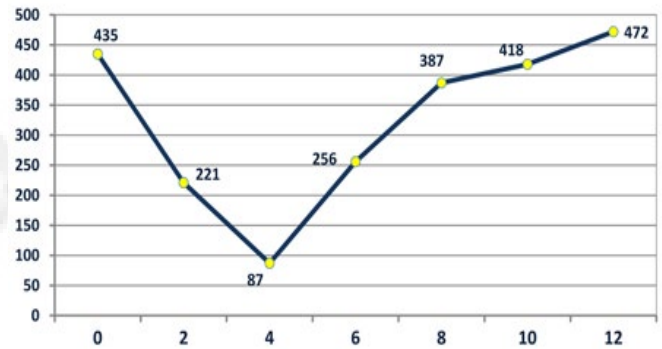
A curve is just a series of tests of the blood glucose level, starting just before you feed and inject in the morning and continuing for as long as possible. Ideally 24 hours, preferably a minimum of 12 hours, with a test done at least every two hours.

If you learn to home test blood glucose, you can do curves yourself at home. They can also be done by your veterinarian, either by leaving your dog at the vet for the day or, if stress is an issue and you can arrange it, by taking your dog in for quick blood draws every couple of hours.

The results of a blood glucose curve where the dog has a good balance of diet and insulin look like this:



There is a small difference, approximately 100 points, between the lowest and highest blood sugar and the blood sugar never falls below 100. Keeping the blood sugar at 100 or higher allows for natural variation in blood sugar from day to day without the risk of your dog suffering from low blood sugar.



If the food and insulin are not well balanced, the curve can look something like this:

In this curve, the blood sugar falls sharply because there is more action from the insulin in the first three hours after the injection is given. The food isn't keeping up with the insulin. And then the insulin runs out (because it was used up so quickly) and the blood sugar goes high again.

Much can be done to improve problems of poorly matched food and insulin if there is someone at home every day to keep a more flexible schedule.



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Diabetic Dog Food

Best habits for a dog with diabetes

by tracey patterson

A sick dog can be heartbreaking to her or his owner, but diabetes, especially when detected early, is definitely treatable. Just as with people, the diagnosis of diabetes means there are going to be some lifestyle changes, the major changes being diet and weight management including a good exercise program. If a veterinarian has diagnosed your dog with diabetes, he or she should provide a list of acceptable food and even brands of diabetic dog foods that your are OK for a diabetic dog to eat. The primary way of managing diabetes is through proper diet and good eating habits and whether you go homemade or commercial, you need to feed you dog special diabetic dog food. [5].

What is Diabetes in Dogs

The trigger for the condition of diabetes (also called Diabetes Mellitus) is insulin or the production of it.

Insulin, produced in the pancreas of a dog or human, is responsible for controlling glucose concentrations in the blood. The right amounts of glucose in the blood are a good thing because this is the body's main fuel. Normally, insulin controls glucose by preventing extra glucose production by the liver and ensuring that excess and unneeded glucose derived from food is put into body stores.

In a diabetic animal there is not enough insulin to switch off glucose production by the liver or to efficiently store excess glucose derived from energy giving foods. The concentration of glucose in the blood then rises. If it got too high, normally it is leaked into the urine and expelled from the body. With diabetes, the level of glucose exceeds the level at which the kidneys let glucose leak into the urine.

However, a lot of glucose is being released in the urine, taking even more water with it causing larger volumes of urine to be produced than normal. A vicious cycle starts of increased thirstiness / water consumption / excessive loss of water in urine.

Undetected and untreated diabetes can lead to greater urinary tract infections and cataracts. There is no cure for diabetes, but it can be managed, especially if detected early. If diabetes is found and treatment is required, the treatment will be daily injections of insulin; will show you the proper way to administer the treatment, and provide a time schedule which you must stick to[1].

Causes of Diabetes

Any dog can be at risk of developing diabetes. However there are some characteristics your dog may have that make diabetes more of possibility.

One of the main reasons why dog diabetes develops is heredity. This means that if the dog's parents have diabetes, it is very likely that the offspring will also inherit the same problem. In fact, certain breeds tend to be more susceptible including these:

- Australian Terrier
- Standard Schnauzer
- Miniature Schnauzer
- Keeshond
- Samoyed
- Beagles
- Pugs
- Miniature and Toy Poodles

However, it is possible that your dog's condition is triggered by an entirely different disease, which it may have suffered a long time ago. Certain diseases, especially the ones affecting the pancreas, may trigger abnormal production of the hormone insulin.

Obesity is widely known to cause diabetes in people, and more and more this is getting to be the case with dogs. Dogs that are overweight are often this way because of poor eating habits and diet rich in table scraps. These foods, if high in fat and simple carbohydrates (sugars) and low in complex carbohydrates and protein, can facilitate an imbalance of blood glucose levels, which in turn, over time, may be difficult for the dog's natural insulin production to control.



Diabetic Dog Food

Best habits for a dog with diabetes

Even if obesity is not the cause of the diabetes, being overweight may affect your dog's response to the insulin injections, in other words how well their body absorbs insulin.

Dogs with inflammation of the pancreas are also inclined to developing diabetes. Some drugs can interfere with insulin, leading to diabetes. Glucocorticoids, which are cortisone-type drugs, and hormones used for heat control are drugs most likely to cause diabetes. These are commonly used drugs, but only a small percentage of animals receiving these drugs develop diabetes after long term use.[4]

Other risk factors include:

middle aged to older dogs (over 6 years old)
female dogs
the presence of hormonal (endocrine) abnormalities such as hypothyroidism and Cushing's syndrome.

Diet Changes for Diabetes

The major change you will have to make is avoid giving the diabetic dog food with sugar and carbohydrates. However, many commercial dog foods contain high amounts of carbohydrates and sugar[2].

Carbohydrates are considered a sugar because the body converts it into glucose. When blood sugar plummets too low, it results in hypoglycemia, which is a serious condition. Hypoglycemia happens when blood glucose or blood sugar falls

too low, quickly. A diet of strictly dry food is the biggest culprit, but soft-moist dog food can be high in carbs too.

Good foods for diabetic dogs

There are two main choices when developing a diabetic diet, natural foods prepared for the dog or commercial diabetic dog food.



A Natural Diet

A natural diet of homemade and raw foods does not mean table scraps. A natural diet is planned and on purpose and consists of largely unprocessed foods (raw chicken, rice, carrots, etc) that are prepared for the dog. A raw diet is made up of foods that are not cooked. Cooked or not, a natural diet is a good way to control what the dog is eating.

Some foods included in a homemade diabetic diet would be:

- **Low fat meats.** Choose high-quality meats with little fat like chicken, turkey, fish and eggs.
- **A few fresh vegetables and raw fruits.** Fresh veggies and fruits in moderation (but never grapes or raisins) are high in nutrients and vitamins, and have natural sugars, which are not bad for diabetics like processed and refined sugars are.



- **Some grains.** Certain grains like oats, brown rice and millet are beneficial for diabetic dogs. Used sparingly, these provide fiber which helps control insulin levels.
- **Possibly extra vitamins or minerals.** Vitamin E, for instance, aids in reducing the requirement for insulin.



Diabetic Rescue Aussie - Velcro

Diabetic Dog Food

Best habits for a dog with diabetes

Foods that should be avoided include:

- **Sugar.** Do not feed your dog 'people food' or dog food that has sugar in it. Be sure to check that sugar or its other forms (sucrose, fructose, syrup, etc.) is not on the list of ingredients.
- **Baked goods.** Eliminate this from your dog diet, including most dog biscuits.
- **Most fats or fatty meat.** For instance, while turkey and chicken are OK, you should remove any skin and fat before giving it to your dog. Meats with highly saturated fats like beef, ground beef, and pork should not be given. Generally, you should not be giving your dog any foods that have been prepared in fats. A touch of fat is healthy and is already found naturally in meat. Other OK fats are quality fish oils.
- **An all meat diet.** Over time, this type of diet is harmful because of mineral and other imbalances. Dogs need balance found in grains and vegetables as well.
- **Most dry dog foods.** Most dry dog foods are mainly made up of simple carbohydrates--not what a diabetic dog needs.

However, dry diabetic dog foods are generally safe, but you still want make sure it is high in protein and vegetables. You still want to be sure to supplement dry food with quality wet food.

A natural diet doesn't have to be expensive or hard work and there are many Websites with recipes that make it easy. Commercial Diabetic Dog Food

While there are some brands of dog food specifically for diabetic dogs, there are not many. Typically veterinarians advice dog owners to look at 'natural' commercial dog foods (made with natural ingredients) or low-calorie, low-fat food designed to promote weight loss (however, this is not recommended for underweight diabetic dogs).

Some more popular brands include

- Purina Veterinary Diets DCO (Diabetes) Dog Food
- Solid Gold Natur-Bone (Diabetic Dogs)
- Newman's Own Advanced Dog Food (natural)
- Hills Science Diet (natural)
- Organix Dog Food (natural)

Homemade Diabetic Dog Foods

A diet of homemade natural food can be very beneficial for your dog especially when you are managing a condition like diabetes where nutrition is crucial (Homemade dog food refers to meals specially prepared for the dog, not leftovers or table scraps.)

When preparing your diabetic dog's food, it is crucial that the diet contains a protein source, a complex carbohydrate source, sufficient vitamins and minerals, and some fat. The guidelines for feeding times and meal size still apply for feeding a diabetic homemade dog food. Many owners find a balance in good nutrition and time spent cooking by giving their dogs a combination of home-prepared and commercial dog food.

Just as with people, a dog with diabetes can have a high quality of life with a balanced lifestyle that includes a good diet of specially formulated diabetic dog foods, medication if necessary and regular exercise.

References

- Canine Diabetes. org - Information for owners of Canine's with Diabetes Mellitus
canine_diabetes_org
"Selecting Nutritious Pet Foods", FDA
<http://www.fda.gov/cvm/petfood.htm>
- AAHA Diabetes Management Guidelines for Dogs and Cats
<http://www.aahanet.org/PublicDocuments/AAHADiabetesGuidelines.pdf>
- College of Veterinary Medicine, Washington State University
<http://www.vetmed.wsu.edu/cliented/diabetes.aspx>
- Diabetic Dog Foods
<http://diabeticdogfoods.com>

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