The Diabetic Cat
Learn What to Feed Your Cat
To Treat and Even Cure Diabetes
Diabetes in Cats

“We see diabetic cats every week—new cases as well as chronic, recurring cases. It’s the second most common feline endocrine disorder—after hyperthyroidism—that we treat at our hospital.”

Richard Goldstein, DVM at Cornell University Hospital for Animals (qtd. in Ewing)

Unfortunately, diabetes is a terribly common disease occurring in cats across the world. It is so prevalent that estimations indicate diabetes affects about 1 cat in every 200 (Moore). This means that your own cat or one you know is at great risk for the possibility of being afflicted by diabetes at some point in its life.

What is Diabetes?

Diabetes is a malfunction related to a cat’s endocrine system. The endocrine system involves various hormones, and it is vital that it works properly. In the case of diabetes, hormones that are produced by the pancreas, known as insulin, don’t function correctly.

Insulin is so important for a cat’s body. When the cat eats a meal, all the nutrients, fats, proteins, etc. are broken down into glucose. This glucose is then spread throughout the body via the bloodstream with the assistance of insulin. This glucose, or blood sugar, is what provides the body with energy necessary for life, and when there is a malfunction, the body’s operation is compromised (Ewing).
There are certain risk factors for developing diabetes. Most cats are older (over the age of 9), inactive, overweight, or a neutered male. It can also be acquired secondarily as a result of another disease like pancreatic disease or can be a side-effect of various drug therapies (Scherk). Further research needs to be conducted to see if there is a genetic component in diabetes, but at least in the case of Burmese cats, which have a higher incidence rate than the average cat, there is also the suggestion of a genetic component (Rand).

There are two overall types of diabetes:

1. Type 1 is most frequently seen in dogs. For whatever reason, those cats that are affected with type 1 produce little if any insulin. Their pancreas appears to be unable to produce the necessary hormone.

2. Type 2 diabetes is more common in most cats. This is where the cat’s pancreas is able to produce insulin, but the body appears to be resistant to it or has trouble utilizing it.

(Ewing)

Debra Zoran, DVM in her article titled *The Carnivore Connection to Nutrition in Cats* estimates that about 65% of cats have type 2 diabetes. Type 2 diabetes means the cat is not necessarily insulin dependent, but it could be in the first stages of disease management (1563).

The symptoms of diabetes can be mistaken at first glance for other diseases, especially in the older cat. A cat might not possess all the warning signs, but one or two are enough to
warrant further investigation. If a cat begins to lose weight while maintaining an
appetite, increases the amount of water it ingests, and increases urine output, a trip to the
vet is in order. For most cats, these are the early signs (Ewing).

According to Kymthy R. Schultze, C.C.N., A.H.I, author of Natural Nutrition for Dogs
and Cats: The Ultimate Diet, other “red flag” warning signs include a kind of “sugar
high” following a meal where the cat appears quite active but then is tired or lethargic,
any weakness, or anemia (qtd. in Solan).

A diabetic cat is often ravenous trying to compensate for the problem by eating more
food, but if the disease is left untreated, its appetite will wane. Some cats, especially with
disease progression, vomit, have problems breathing, and can die. Lastly, because a cat’s
body is overrun with excess sugars, his breath can take on a sickly sweet smell, a little
like nail polish remover (Carlson and Giffin 199-200).

Diabetes can be detected through a blood and urine test. These tests will show the
amount of sugars in the body. Urine tests indicate how much sugar is being passed
(excess sugars find their way out of the body through urine), and blood tests show what
the level of sugar is in the actual bloodstream. Any cat suspected of having diabetes or
showing symptoms of the disease should be immediately evaluated to confirm the disease
in order to begin treatment quickly.
There are a few issues that arise as complications of diabetes, especially unregulated diabetes. All of these things can be severe and need to be closely monitored.

- **Ketoacidosis:** Simply put, this is where there are very high blood sugar levels and not enough insulin, which allows ketones (certain acids) to build up in a diabetic cat’s blood. (Ewing) This can be an emergency situation to resolve as a cat can go into a diabetic coma and die and is generally weak and has low blood pressure.

- **Heart problems:** Diabetic cats are at an elevated risk of heart failure. One study indicated that heart disease was prevalent in these cats and that they were 10.4 times more likely than a non-diabetic cat to suffer from heart failure. In addition, diabetic cats lived half as long (385 days) as non-diabetic cats (718 days) after a diagnosis of a heart problem (Little and Gettinby).

- **Respiratory problems:** One study found that diabetic cats were at a greater risk of developing respiratory issues without clinical signs. These included “congestion, edema, pneumonia, fibrosis, mineralization, and neoplasia.” (Scherk)

- **Peripheral neuropathy:** This is nerve damage caused by diabetes. It primarily affects the cat’s legs and feet and makes the cat weak in its limbs. Cats affected with peripheral neuropathy generally have problems walking, might refuse to stand on all four legs, and may begin dragging their rear legs or rear end along the floor (Ewing).

The sooner diabetes is diagnosed and monitoring is begun, the less likely that there will be complications.
**How Does Diabetes Develop?**

As mentioned previously, while diabetes can develop as a secondary occurrence to disease or can be related to prolonged drug therapies, the most common reason for its development is the same as it is for people: older, fatter kitties. Dr. Zoran says that most estimates indicate that 25-33% of cats are overweight or even grossly obese and unfortunately the greatest reasons for this occurrence are lack of exercise and an overflowing stockpile of energy from starchy, high carbohydrate foods. Just as in people, food energy is converted to fat if not used (1563).

Although the feline is not truly domesticated, like the dog, and can survive on its own in the wild, cats have been invited into our homes. Along with this invitation came feeding them commercially produced foods, which are overwhelmingly high in carbohydrates. Cats are known as obligate carnivores, which means that they are anatomically built to consume animal flesh. For example, their intestinal tract is shorter in order to move protein from consumed prey more quickly through the system, and their stomachs have incredibly strong acid contents in order to both process the protein and kill any potential bacteria.

Cats use protein for energy rather than carbohydrates, so it is harder for their bodies to effectively utilize carbohydrates. Dr. Elizabeth Hodgkins writes in her article titled *Feline Diabetes and Obesity: The Preventable Epidemics*:

Because of the technology of dry food production, dry cat foods are loaded with carbohydrate from cereal. This carbohydrate is absolutely
required in the extrusion process; dry pet foods are essentially breakfast cereal for pets with a little added meat meal for palatability. Further, because this cereal undergoes processing at high heat and pressure during extrusion, it becomes pre-digested and enters the pet’s bloodstream essentially as “sugar.” Nothing in the cat’s evolutionary development could possibly have prepared it for a steady diet of this sugar laden “junk” food (Hodgkins).

When college biology professor Karen Bame heard the news that her tubby kitty had diabetes, she was shocked. She was even more shocked when her veterinarian told her that cats needed diets higher in protein. Having been feeding her cat typical dry cat food, she couldn’t believe what she was hearing. “It sort of blew me away because I teach biochemistry, and I had just gotten through with a lecture with my students about diabetes in people and how they should stay away from proteins,” she said (qtd. in Mann).

Feeding a diabetic cat dry carbohydrate-laden foods is “…akin to treating a child for lead poisoning while continuing to feed them paint chips,” says Dr. Hodgkins (qtd. in Mann). The reason why is because carbohydrates are converted into sugars at a much faster rate than proteins.

**The topic of food and its connection to diabetes is so important that we’ll return to an extended discussion on the way foods impact a diabetic cat in a later section.**
In addition to our cat’s typical diet posing some problems in the development of diabetes, the overwhelming fact is that cats are simply eating too much. Pet nutrition consultant David Dzanis thinks “the number 1 nutritional problem for dogs and cats is too much food.” (qtd. in Fackelmann)

For years, people have been instructed to feed their cats differently than their dogs. The general feeding rule for dogs is to feed two meals a day, since wild canines are accustomed to consuming a lot in one meal. Cats, on the other hand, tend to be grazers by nature, and most experts recommend allowing housecats to graze on food throughout the day.

This grazing combined with extra treats and goodies makes for too many calories consumed per day. An approximately 10 pound cat should only consume about 275 kilocalories a day (Fackelmann).

The other integral component in the fattening of our kitties is lack of exercise. We have housecats who are consuming high carbohydrate food all day long and lazily sleeping the day away. The excess calories simply convert to fat, and over the course of time, kitty packs on the pounds.

Dr. Eliza Sundahl of the KC Cat Clinic suggests stepping up a cat’s exercise plan by moving the food around the house so that kitty has to “hunt” for it. She notes that
outdoor cats seeking out prey make about 30-40 attempts to catch prey and succeed only about 4 or 5 times. All that activity gives them food, mental stimulation, and exercise. “Now, our cats lay on the couch, know where the food bowl is, saunter over, eat, and saunter back,” she said (qtd. in Mann).

The Treatment for Diabetes (and Prevention too!): Insulin, Food, and Exercise

Treatment for Diabetes: Insulin

When a cat receives a diagnosis of diabetes, the initial treatment will likely include insulin to get the situation immediately under control. While Dr. Zoran notes that 65% of cats with diabetes are non-insulin dependent (or type 2), they will at least be transiently insulin-dependent at diagnosis (1563). The sooner that diabetes is caught, the better the turn-around time and the more likely the cat will be able to reduce its insulin intake.

Insulin is categorized in a few different ways: type (its origin including pig, cow, or human), and by speed and lasting effect (short, intermediate, or long) (Cook). The quick acting insulin is usually used in emergency situations where a cat is presenting with diabetic ketoacidosis; otherwise daily insulin is regulated with intermediate or long-acting insulin (Scherk).

According to Audrey Cook in her 2007 article for Veterinary Medicine, some of the more common insulin in use:
- Regular insulin: Human variety that is quite potent and is given via IV. Generally reserved for emergency cases of ketoacidosis.

- Vetsulin: Pig origin and is generally used for diabetic dogs. There is a concern of insulin resistance in cats with Vetsulin.

- NPH insulin: Human variety that is intermediate-duration insulin. It’s a fairly economical option.

- Protamine zinc insulin: Primarily cow origin with a small part pig based. It is not used in dogs at all, but works well for many cats due to its long-lasting effects.

- Glargine: Human variety that is a newer formulation. It has an ultra-long duration compared with other insulin, which is making it a good choice for home monitoring of diabetic cats. It effectively matches the way cats tend to naturally eat with small, frequent feedings.

Cook notes:

A surprisingly large number of newly diagnosed diabetic cats receiving glargine go into remission; most likely because of the reversal of glucose toxicity, a condition in which persistent hyperglycemia inhibits the release of insulin from the pancreatic beta cells. If the glucose concentrations are quickly normalized, the beta cells regain function, and the diabetes may resolve.

Glargine is one of the developments in cat diabetes that many veterinarians are excited about. Dr. Richard Goldstein from Cornell University Hospital for Animals says, “A synthetic insulin called glargine is longer acting. A lot of cats that are started on glargine
and are also consuming the newer type of diet may go through extended periods in which they do not require any insulin injections at all.” (qtd. in Ewing)

When a cat is initially begun on insulin, its blood glucose levels must be heavily monitored. Dr. Margie Scherk from the Cats Only Veterinary Clinic in Vancouver says that to properly monitor diabetes in cats requires one to understand that it might be two or three months to fully regulate a newly diagnosed cat (Managing diabetes mellitus in cats…). Once regulated, periodic check-ups and monitoring are necessary to ensure everything is functioning well.

There are a number of cats, especially those using glargine, that will go into remission and not need insulin within a month of diagnosis/therapy (Cook).

**Treatment for Diabetes: The Food Connection**

The largest part of diabetes treatment directly relates to food. Diabetic cats are not like diabetic dogs or diabetic people, and veterinarians have since learned that the past feeding recommendations are no longer accurate or warranted.

Increasing fiber in a cat’s diet used to be standard protocol, but it has been found not to be successful for cats. Instead, researchers are finding that the best way to feed a diabetic cat is a more natural diet for felines.
Deborah Greco, DVM, PhD of Colorado State University’s College of Veterinary Medicine embarked on a study to discover what did work for diabetic cats. She found over the course of two years that a diabetic cat that consumed a high-protein diet with moderate levels of fat was “10 times more likely to go off insulin than diabetic cats fed high-protein, high-fiber diets.” (qtd. in Moore)

Dr. Greco became interested in the idea of food for the diabetic cat when her own cat was diagnosed with diabetes. It was only when she changed from the traditional protocol of high fiber and a lot of insulin to the higher protein diet that he was able to no longer use insulin. “Cats’ metabolisms are totally different from dogs or people, and they have a much more specific need for proteins, particularly some amino acids such as taurine,” she said (qtd. in Moore).

While every cat is an individual, numerous studies have shown that diet plays a huge role in both reducing the weight of a cat and in reversing the cat’s dependency on insulin. For cats fed a higher protein, lower carbohydrate, lower fiber diet:

- One study showed a reduction of more than 50% in the amount or insulin required in 8 out of the 9 cats studied.
- Up to 1/3 of cats studied in another experiment were able to stop using insulin altogether.
- Another study indicated that for very obese diabetic cats, this diet choice helped them lose weight and reduced their obesity caused resistance to insulin.

(Zoran 1564)
Diets that are rich in carbohydrates convert to sugars relatively quickly. These sugars trigger insulin. Jorge Cruise, author of The Belly Fat Cure, calls insulin “the key regulator of fat” and “helps your body store fat and makes sure it stays put.” (15) What this means for our kitties is that a cat fed a continuous supply of commercial dry food receives far more carbohydrates than it should, and as obesity sets in, the risk of diabetes becomes higher. Cruise believes that the key to weight regulation in people, and the same would apply to our cats, is to eat a diet that keeps the insulin levels low.

The diet that does that for people is quite different than the one for cats. Ours would be quite fibrous; whereas, as previously discussed, it has been found that cats’ diet should be substantially higher in protein.

**The Diabetic Cat: Diet for Prevention & Treatment**

Now that you know food is a major component in how cats become obese and develop diabetes in the first place, you know that you must change the way your cat eats in order to help it heal after the diagnosis. When changing its diet, you must work with your veterinarian to closely monitor its glucose levels, so always consult with your veterinarian before making any changes along the way as your cat experiences its new diet.

“One of the keys to success in dealing with diabetes is to feed your animal a ‘whole natural food’ diet and stick to it,” says veterinarian Roger Dehaan (qtd. in Zucker 138).
With this quote in mind, here are some homemade recipe options that address a high protein need with a nutritious, whole-food approach for diabetic cats.

**Some of these recipes are specifically marked for diabetes, but any whole food recipe that focuses on protein can be appropriate for a diabetic cat. These recipes also work well for those cats needing to lose weight and to also help prevent diabetes altogether**

#1: Diabetic Cat Food Recipe

*By Anitra Frazier
Adapted from The New Natural Cat*

1/2 cup raw ground organic chicken
1/2 cup raw chicken liver
1/2 cup cooked grain (brown rice or oatmeal)
1/4 cup finely grated raw zucchini, or carrots, or cooked green beans, or winter squash
vegetable broth to moisten

“The goal of this diet is to strengthen the pancreas, reduce scarring, reduce insulin needs, stimulate insulin production, replace nutrients lost in urine or because of stress, and prevent the main complications associated with diabetes,” says Frazier.

#2. Raw Cat Food Diet Recipe Made WITH Real Bones

*By Cat Nutrition. Org*

*You will need a grinder to make this recipe accurately*

--2 kg [4.4 pounds] raw muscle meat with bones (chicken thighs and drumsticks or, better, a whole carcass of rabbit or chicken amounting to 2 kg; if you don't use a whole carcass, opt for dark meat like thighs and drumsticks from chicken or turkey)
--400 grams [14 oz] raw heart, ideally from the same family of animal (in other words, don't use beef heart with a chicken recipe, use chicken heart with chicken; if no heart is available, substitute with 4000 mg Taurine)
--200 grams [7 oz] raw liver, ideally from the same family of animal (in other words, don't use beef liver with a batch you're making of chicken; use chicken liver with a chicken batch; if you can't find appropriate liver, you can substitute 40,000 IU of Vitamin A and 1600 IU of Vitamin D--but try to use real liver rather than substitutes)
NOTE: If you cannot find heartmeat or liver and decide to substitute with the Taurine/Vitamin A and D, then remember to REPLACE the missing amount of organ meat with the equivalent amount of muscle meat. In other words, if you cannot find heartmeat, you add another 400 grams of the meat/bones. If you can't find liver, add another 200 grams of meat/bone.

--16 oz [2 cups] water
--4 raw egg yolks (use eggs from free-range, antibiotic-free chickens if you can)
--4 capsules raw glandular supplement, such as, for example, multigland supplement by Immoplex
--4000 mg salmon oil (see note at bottom of recipe*)
--800 IU Vitamin E ("dry E" works well)
--200 mg Vitamin B complex
--1.5 tsp. Lite salt (with iodine)
(optional: 4 tsp. psyllium husk powder (8 tsp. if using whole psyllium husks; see note at bottom of recipe**))

NOTE: If you will not be using the food immediately and freezing for more than a week or two, toss in 4000 mg of additional Taurine to make up for what may get lost during storage. It is also not a bad idea to sprinkle extra Taurine from a capsule on the food as you're serving it two or three times a week, just to be certain your cat is getting plenty of this critical amino acid.

1. Remove about half of the skin from the muscle meat. Chunk up (i.e., cut) as much of the muscle meat (minus most of the skin if using chicken or turkey, but leave skin on if using rabbit) as you can stand into bite-sized (nickel-sized, approximately) pieces. Save the chunked meat for later. Do not grind it.

2. Grind the raw liver, any skin, raw meaty bones, and raw heart. Once ground, stir this meat/bone mixture well and return to refrigerator.

3. Fill a bowl with 2 cups of water and whisk everything (non-meat) except the psyllium. If you had to replace liver with Vitamin A/D or replace heart with Taurine, add the substitutes now. Add psyllium at the end -- if you're using it -- and mix well. Finally, put the three mixtures together--the "supplement slurry" that you have just mixed, the ground up meat/bone/organs, and the chunks of meat that you cut up by hand. Portion into containers and freeze.

Don't overfill the containers. The food expands when frozen and you don't want lids popping off. Thaw as you go. The food shouldn't be left thawed in the refrigerator more than 48 hours before serving. To serve, portion into a 'zipper baggie' and warm under hot
water in the sink. NEVER microwave the food. Cats like their food at something approximating "mouse body temperature."

*Every two or three days, I suggest sprinkling a few drops of fresh salmon oil from a newly-opened capsule on to the cats' food. The Essential Fatty Acids in salmon oil are extremely fragile, and since we do not know exactly how much gets lost during freezing, I think it's wise to use a bit of fresh salmon oil directly on the food a few times a week. Most cats love the flavor.

**Not all cats require additional fiber (psyllium) in their diet. If your cat has been eating low-quality commercial food for several years, especially dry food, she may have lost bowel elasticity and may benefit from the extra fiber. As a general rule, I recommend using psyllium when an adult cat first gets raw food. I rarely add much psyllium to my adult cats' diet. Bear in mind that some cats seem to get constipated without additional fiber, whereas other cats seem to get constipated if they get too much fiber. Each cat is unique, and you'll have to judge what works best for your cat.

#3: Diet for Cats with Diabetes

By Dr. Shawn Messonnier

Adapted from the Natural Health Bible for Dogs & Cats: Your A-Z Guide to Over 200 Conditions, Herbs, Vitamines, and Supplements

1/3 to 1/2 pound of ground meat (turkey, chicken, lamb, beef)
1/2 to 1 large hard-boiled egg
1/2 ounce of clams chopped in juice
4 teaspoons chicken fat or canola oil
1/8 teaspoon potassium chloride (salt substitute)
100 mg taurine

NOTE: If using 1/2 pound of chicken and 1/2 egg, the diet will provide 471 kcal, 53.1 gm of protein, and 27.4 gm of fat.

Variations
1. Substitute tuna (4 ounces in water without salt), sardines (4 to 6 ounces in tomato sauce), or other fish (such as 5 ounces of salmon) for the meat protein.
2. Supply vitamins and minerals as follows: 3 to 4 bonemeal tablets (10-grain or equivalent) or 3/4 to 1 teaspoon of bonemeal powder to supply calcium and phosphorus with a multivitamin/mineral supplement, using the label instructions. Alternatively, use a natural product from Standard Process (1 Calcifood Wafer or 2 Calcium Lactate tablets for each 2 bonemeal tablets).
3. When possible, add natural vitamins made from raw whole foods, rather than synthetic vitamins (although both can be used in combination), as the natural vitamins also supply plant phytochemicals, enzymes, and other nutrients not found in chemically synthesized vitamins. Use either Catalyn from Standard Process (at a dose of 1 Catalyn per 10 pounds) or NuCat from VetriScience (following label dosages) as the natural vitamin in this recipe.

4. For extra nutrition and variety, use fresh, raw or slightly steamed vegetables, such as carrots or broccoli (approximately 1/2 to 1 cup per recipe) as a top dressing for the diet. Most vegetables provide approximately 25 kcal per 1/2 cup.

5. The nutrient composition of the diet will vary depending upon which ingredients are used. The actual amount to feed will vary based upon the pet's weight (feed less if weight gain, more if weight loss).

6. Extra fiber, if necessary, can be added by supplementing with kidney beans (1/8 cup), oatmeal (1/4 cup), wheat bran (1/4 ounce), pumpkin or squashes, and sugar-free fiber products such as Metamucil.

#4: Easy Cat Diet

By Dr. Jean Hofve

Included in The Veterinarian’s Guide to Natural Remedies for Cats by Martin Zucker (38-39):

Choose one protein source and be sure to rotate frequently:

- 6 ounces ground turkey
- ½ pound boneless chicken breast
- ½ pound lean ground beef
- ½ pound lean ground lamb
- ½ pound beef, chicken, or turkey hearts ground up

Optional: once a week, you may use 4 ounces of liver in place of ½ of any of the above meat sources.

To your protein, add:

- 1 to 2 tablespoons pureed vegetables
- 1 hard boiled egg, diced
- 2 teaspoons canola oil (or divide canola evenly with flaxseed oil)
- ½ teaspoon bone meal
- 1/3 of a 250 mg. taurine tablet or ½ ounce of chopped clams in juice

Finely chop or grind everything together and package and freeze.

#5: Mix and Match Recipe Matrix

By Sandy Arora

Adapted from Whole Health for Happy Cats
A: Meats: 1 lb (.45 g) + 1 heart, 1 liver, and 1 gizzard
B: Veggies: 2 tablespoons (28 g)
C: Calcium powder
D: Eggshell powder
E: Bone meal powder

Arora suggests choosing a meat from column A. Add two tablespoons of ground veggies from column B along with the specified calcium amount. Select only one option for calcium from either column C, D, or E. Add a raw yolk and cooked white from just one egg. You need to add this to each pound (.45g) of meat. Additionally, she adds supplements like: vitamin A: 500 IU, vitamin B complex: 10 mg, vitamin E: 200 IU, vitamin D: 50 IU, and at times of stress, vitamin C: 250 mg calcium ascorbate form.

#6: Chicken Soup

*By Patti Delmonte*

*Adapted From Real Food for Cats: 50 Vet Approved Recipes to Please the Feline Gastronome*

1/2 cup lentils
2 cups water
2 chicken breasts, boned and cut into kitty-bite-size pieces
1/4 cup finely chopped carrot
1/4 cup finely chopped broccoli
1/3 cup finely chopped onion**
1 clove garlic, minced**
1 teaspoon iodized salt
2 teaspoons bonemeal (not garden variety)
2 tablespoons corn oil
2 tablespoons liver (cooked or raw)
1. Place the lentils in a 2-quart pan, add the water, and bring to a boil. Lower the heat, cover, and simmer for 30 minutes.
2. Add the remaining ingredients to the pan and simmer another 15 to 20 minutes, stirring occasionally.
3. Cool and serve by itself or over dry food. (Note: If your cat sometimes just picks out his or her favorite flavors, process a portion of the recipe in the blender on a low setting for a few seconds to create a finer consistency.)
Makes 4 or 5 servings

**Many veterinarians no longer recommend giving garlic or onions to cats. Consult with your veterinarian about the use of these ingredients.**

#7: Dr. Fox's Homemade 'Natural' Cat Food Recipe

By Dr. Michael Fox
Adapted from www.twobitdog.com/DrFox/index.aspx

1/2 cup of peas, chick peas or lentils
Pinch of salt
1 T. fish oil *
2 T butter
2 T unflavored gelatin
1 egg, whole
1 T. cider vinegar
1 T. chopped canned clams in juice
1 t. nutritional yeast*
1 t. dried kelp*
1 t. calcium lactate/citrate/ or carbonate supplement or oyster shell or 3 Tums tablets
1 whole chicken cut in pieces, or 1 lb. hamburger (not too lean), or ground lamb, or turkey.
1 cup chopped chicken hearts and gizzards.

Note: T = Tablespoon; t = teaspoon

--Combine all above ingredients.
--Add water to cover all ingredients, simmer and stir, and add more water as needed until cooked and thickened. Stew should be thickened enough to be molded into medium-sized or muffin-size patties (add a little oat meal, bran, or mashed potato to thicken if needed).
--Also add an egg or cup of cottage cheese.
--Immediately after cooking and cooling, de-bone and discard bones (cats should not be given cooked bones to eat since they can splinter and cause internal damage).

This stew can be served as: 1/2 cup full for a cat with the rest of his/her rations. Freeze the rest of the stew as patties, or in muffin trays, and thaw out as needed. Serve one patty to a cat about three times per week with regular rations.
For variation, substitute 1 pound lightly cooked and mixed equal parts of ground or chopped pieces of calf heart, kidney and liver. (NOTE: some cats are allergic to fish, corn, and also to beef and dairy products).

· * These items are available in health food stores. Ideally all ingredients should be Organically Certified.
· NOTE: Add fish oil, like Nordic Naturals or wild salmon oil after the cooked food has cooled to room temperature.

A daily multi-vitamin and multi-mineral supplement is also advisable.

**Vary the basic ingredients to avoid any potential nutritional imbalances; recipe can also be pureed or chopped in a food processor and fed raw**

**Diabetes: Exercise for Weight Loss and Prevention**

It is important to keep kitty active and up off the couch for periods of the day to help prevent diabetes and weight gain. If a cat is already grossly obese, exercise will have to be slowly introduced into its life.

A few suggestions for increased exercise for indoor kitties to help maintain a healthy weight or lose weight:

- Use interactive toys like fishing pole toys to encourage the cat to move.
- If you have stairs, try rolling jingle bell balls down the stairs.
- How about lasers? Many cats love laser lights or a flashlight can be used in a darkened room.
- Try hiding your feet under a blanket and bouncing them around.
- Remote control toys like mice or better yet, try the children’s toy hamster Zhu Zhu pets to encourage your cat to chase “prey.”
Install climbing poles throughout the home. A tall cat tower of at least 6-8 feet is good, but more than one cat pole that runs floor to ceiling encourages the cat to climb.

For a 100% housecat, try installing outdoor areas for the cat using special fencing. There are some pre-made tunnels that can be purchased, or you can make an outdoor area easily using a cat door and a kennel for outside.

Either move the cat food around or try new cat toys that require the cat to work for their food. A small Buster Cube (traditionally used for dogs) could be utilized or a Tiger Diner is also good.

For outgoing cats, teach them to walk on a leash and harness and take them for walks.

If you have just one cat, consider adopting a second cat for companionship and entertainment.

If your cat is already overweight or grossly obese, make sure you have a full medical evaluation before embarking on a new exercise routine. Also, be sure to discuss with your veterinarian the level of exercise that he or she feels is appropriate for your particular cat.

In Conclusion:

Diabetes is not a death sentence for a cat, but it is a time to make important changes. Returning your cat to a high-protein, whole foods diet means that a cat may shortly become non-insulin dependent.
Additionally, this approach also helps prevent cats from becoming obese and from other devastating health issues developing. There are many wonderful homemade meals that address what a cat needs in its diet, and there is a wealth of sources for additional recipes.

Keep in mind that the recipes simply need to be high in protein, low in carbohydrates, low in fiber, and well balanced nutritionally. Some advocate an all raw diet while others prefer cooked meals. Either method is fine. Do what feels right for you and your cat in consultation with your veterinarian.

The right diet, in combination with regular exercise, is the key to both preventing diabetes in the first place and helping to restore the diabetic cat to normalcy.

For further information and references on both diabetes as well as cooking homemade meals for your cat:

Catfoodrecipesonline.com
yourdiabeticcat.com
catnutrition.org
felinediabetes.com
catinfo.org
holisticat.com

Works Cited:


Citations for Recipes (not noted above):


Fox, Michael W. “Dr. Fox’s Homemade ‘Natural’ Cat Food Recipe.” *Dr. Fox on-line.* TwoBitDog.com, n.d. Web. 27 Dec. 2009.
