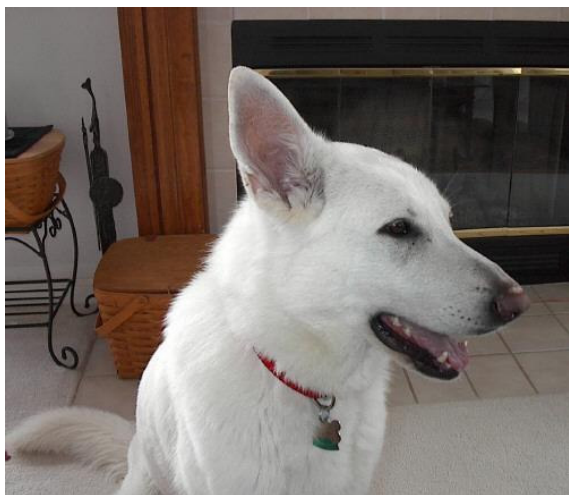


Celebrating Cleo!



Managing Canine Chronic Renal Failure



CLEO was diagnosed with Chronic Renal Failure in January 2003. Even though her condition was quite advanced by the time it was diagnosed, she continued to live and thrive for nearly another year. The links below were a tremendous help to us throughout our journey together. The volume of information can be overwhelming at first. Just take a deep breath, relax, and begin learning. There is so much that you can do to slow down the progression of this disease. We wish you luck.

In honor of my beloved Cleo, White German Shepherd Dog. May the memory of her indomitable spirit live on in the lives of those she touched.
October 1, 1999 – November 8, 2003

Internet Support Groups

Support communities for people caring for dogs with kidney disease. This is an extremely dedicated group of individuals willing to do whatever it takes to help their dog. There is a wealth of information in the Files and Links sections on these websites. Cleo and I would not have made it as far as we did without the generous help, support, and advice from the people on these lists, along with superb veterinary care. Learn all that you can in order to become an active and participating member of your dog's medical care team.

K9KIDNEYS <http://groups.yahoo.com/group/K9KIDNEYS/>
K9KidneyDiet <http://groups.yahoo.com/group/K9KidneyDiet/>

Cleo and I were members of the following groups as well. Dogs are very much welcome! Most pets on these lists are battling CRF.

Anemia http://groups.yahoo.com/group/Feline_Anemia/
Phosphorus management <http://groups.yahoo.com/group/Feline-Phosphorus-Management/>
Calcitriol (Feline) <http://groups.yahoo.com/group/Calcitriol/>

General Information About Canine Kidney Disease

<http://www.geocities.com/jjfleisher/>
<http://www.dogaware.com/kidney.html>
<http://courses.vetmed.wsu.edu/vm552/urogenital/crf.htm>
<http://www.dcavm.org/03sept.html>
<http://www.dvmnewsmagazine.com/dvm/article/articleDetail.jsp?id=66395&pa>
<https://vmacs.vmeth.ucdavis.edu/userpages/NUT/brochures/renal.doc?html>

Geared for cats, but there is excellent information on chronic renal failure, and links to other resources that apply to dogs as well. These were among my favorite websites, and I referred to them often.

<http://www.felinecrf.org>
<http://www.felinecrf.com>

Dietary Information For The CRF Dog

Whether you plan to feed a veterinary prescription diet, home cook, or feed raw, you need to limit the amount of protein and phosphorus in your dog's diet. As a general rule, feed 1 gram protein/lb body weight per day and no more than 11 mg phosphorus/lb body weight per day (www.merckvetmanual.com). According to researchers at Ohio State University, dogs in very early renal failure can be fed a less restrictive diet of 20mg to 30mg dietary phosphorus/lb body weight per day. Your vet may restrict dietary protein further as kidney function declines, but feed at least 0.6 to 0.8 grams of high quality protein per lb body weight per day to avoid protein malnutrition (www.nutrition.org/cgi/content/full/128/12/2733S). Cleo was limited to 0.9g/lb per day protein and ~8mg/lb per day phosphorus. She gained a total of 25 pounds over an 8 month period, and was very active and muscular. Eggs provide the highest quality protein, and egg whites have the added benefit of being an excellent low-phosphorus protein source. The yolks have more phosphorus. Sticky rice (aka glutinous, sushi, or sweet rice), a short grain white rice, is lower in phosphorus than other carbohydrate sources. Sticky rice is available at Asian food stores or online. Brown rice is higher in phosphorus. *Limiting dietary phosphorus is critical for the CRF dog.*

Tools for creating reduced protein/low phosphorus home prepared diets:

<http://nat.crgq.com/> Analyzing nutrient value of home made diets. Click on NATS Ver 2.0 to get started.
<http://www.nal.usda.gov/fnic/foodcomp/search/> USDA nutrient database
<http://www.nwkidney.org/images/website/docs/nutrition/soaking2.htm> How to reduce potassium in foods
<http://www.nutritiondata.com/nutrient-search.html> Selecting foods with a specific nutrient profile. Click on Tools tab on top.
<http://www.fda.gov/cvm/index/consumer/petfood.htm> Recommended daily requirements for a well balanced diet

Veterinary prescription diets (for a complete listing, <http://www.prescriptiondiets.com>):

<http://www.hillspet.com/index.jsp> Hill's k/d, u/d, and g/d for renal disease

For nutritional analysis, select Prescription Diet from the menu options at top of page

<http://www.eukanuba.com> Eukanuba Advanced Stage Canine and Early Stage Canine renal diets

For nutritional analysis, select Veterinary Diets from the Product menu option at top of page

<http://www.walthamusa.com/> Renal diets with low or medium protein, both with low phosphorus

For nutritional analysis, follow link for Canine Diets at bottom of webpage

The following companies do not provide the nutrient analysis for their renal diets on their websites:

<http://www.purina.com/products/purinaveterinarydiets.asp> Purina NF Kidney Function

<http://www.royalcanin.us/> IVD Select Care Modified Formula (purchased by Royal Canin)

**** Protein and phosphorus content per cup for all of the veterinary diets is available on K9Kidneys (Files section) or <http://www.dogaware.com/kidney.html#commercial> (click on link for Commercial Renal Diets)**

A Word On Treats:

Renal dogs can have treats too! Cleo loved her animal crackers (Stauffers brand) and baked k/d strips. Each 2.5 gram animal cracker has a meager 2mg phosphorus. To bake k/d biscuits, slice Hill's canned k/d into small, thin strips. Bake on cookie sheet at 350 for 30mn - 1 hour. Other dogs love carrots, apples, graham crackers, or Nilla Wafers for treats.

Supplements

Common supplements that help with renal function, and recommended dosage based on dog weight. Your vet will also recommend a daily acid blocker, such as Pepcid AC or Tagamet.

<http://www.dogaware.com/kidney.html#supplements> (Click on link for Supplements)

Phosphorus Binders and Dosage

Dr. Larry Nagode with Ohio State University recommends 50mg active ingredient/lb dog weight per day for serum phosphorus levels 6.0 to 8.0, 100mg active ingredient/lb per day for serum phosphorus over 8.0. Most people use over the counter aluminum hydroxide formulations, others use calcium based binders. Your local pharmacy may not stock the aluminum based products on the shelves, but can special order for you. They are non-script items. Renagel and Phoslo are available as prescription items; your vet will recommend proper dosage.

<http://www.dogaware.com/kidney.html#medications> Click on Medications, lists types of phosphorus binders and brand names

<http://members.verizon.net/~vze2r6qt/supplies/binders.htm#Dosage> Recommended dosage, how to properly administer, and online supply sources. Binders **must** be given with food to be effective – immediately before or after eating, or with the meal.

SubQs (subcutaneous fluids)

In my opinion, giving subQs at home - along with feeding an appropriate diet and using phosphorus binders properly, and at full dose - is key to helping your dog live a high quality life for as long as possible. Most dogs do quite well with needles, but their people sometimes have a difficult time adjusting. Give it some time and this should become as routine for you as it is for your dog. Other dogs, like my Cleo, do not do well with needles. A subcutaneous catheter for the administration of fluids is an option for these dogs.

http://www.vetmed.wsu.edu/ClientED/dog_fluids.asp How to give subcutaneous fluids to your dog, complete with photos

<http://www.veterinarypartner.com/Content.plx?P=A&S=0&C=0&A=469> More instructions with photos

<http://members.aol.com/aquila111/subq/webinstruct.html> Step by step illustrated instructions for assembling the fluid bags and venosets

GIF tube

<http://www.practionet.com>

<http://www.hoochcrf.com/>

<http://groups.yahoo.com/group/giftube/>

Aqua-C Hydration Catheter

<http://www.norfolkmedical.com/>

(click on products, then Aqua-C)

Endo-Sof Catheter

<http://www.globalvetproducts.com/>

(click on Small Animal, scroll to Fluid Therapy)

**In addition to 500ml subQ fluids per day, we encouraged Cleo to drink at least 30ml (1 oz) of water/lb body weight daily by adding ~2 tsp of unsalted chix broth (saved from boiling her chix thighs) or 1/4 tsp of Hill's canned Feline k/d to 2 cups of water several times throughout the day (at 85lbs, Cleo drank 2 cups at a time). Water was always added to her meals.

Supplies

Online and local sources for fluids, fluid administration supplies, medications, and supplements. Provides a cost comparison chart for fluids, venosets, and needles. Thin walled Terumo needles are the brand preferred by most people. Less pain for the dog and the fluid flow rate is faster than other brands. We found this to be true from our own personal experience too. Prescriptions are required for fluids, IV lines, and medications. Prescription policies vary for needles.

<http://members.verizon.net/~vze2r6qt/supplies/> Always check local sources for fluids first to avoid high shipping costs.

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