My 10-Step Plan for Dogs with Kidney Failure

When renal failure is first diagnosed, owners and vets must act fast to improve blood level results and arrest further deterioration of the kidneys. My 10-step plan of action gives a dog the best possible chance of improving their quality and longevity of life. Although other vital interventions remain necessary, these fundamental steps can help a canine companion get over the first hurdle and create a window of opportunity for more extensive veterinary assessment and treatment.

Some dogs may not respond to this plan of action, because their kidneys are so badly damaged. However, I am of the “nothing tried, nothing gained” body of people. It is a sad fact that chronic kidney failure cannot be cured. It is a progressive illness that will ultimately prove fatal. The 10-step plan is only the first stage of trying to extend life – maybe for a few months, possibly for a year or two – but extending life is not enough on its own, as we need to stabilize and improve quality of life too. Owners should make daily, weekly and monthly assessments of how their dog’s health is changing … and there may come a point when it is consistently deteriorating, which is also the stage when difficult decisions might be required.

It is important to tell you that I am not a veterinarian. Owners should always heed the advice of their own vet over and above anything written here. The steps I am about to explain are those acquired from years of extensive reading on this subject, from knowledge gained as administrator for the MedHelp Chronic Kidney Failure in Dogs user-group and from experiencing and treating kidney failure in a dog of my own some years ago.

Step 1: Measure Blood Pressure

Studies confirm that up to 93% of dogs with kidney failure also have high blood pressure. Hypertension causes an increased and rapid deterioration of renal function and can also inflict acute blindness in a dog. It is vital an owner gets their vet to do a blood pressure check on their best friend at the point of diagnosis. Treating hypertension is the first priority in helping reduce stress on the already compromised kidneys. While ACE Inhibitors are the standard treatment, they are also often ineffective in dogs with renal disease. A joint treatment of an ACE Inhibitor and Amlodipine, which widens blood vessels and improves blood flow, usually proves more successful.

Step 2: Confirm the Diagnosis

Vets sometimes conduct inadequate testing and assume kidney failure from blood level results alone. The following assessments need conducting, before it is possible to make a true and correct diagnosis (and importantly, together with a confirmed diagnosis of kidney failure, some of these tests might also divulge what has caused it):

- Blood panel tests will check levels of BUN (blood urea nitrogen), creatinine, phosphorus, calcium, and sodium, as well as other potential abnormalities. These tests are insufficient on their own, because low or high readings are also indicative of other illnesses including dehydration, heart disease, various cancers, Addison's disease, urinary tract infection, bladder stones and hypothyroid disease. Additional testing will discount these potential health concerns. Abnormal blood results can also occur due to errors made when collecting the blood sample or while storing it or while being tested at an in-house or external laboratory. It is, therefore, useful to repeat the process a day or two later to confirm the results. Certain dog breeds also have 'naturally occurring' high blood readings, which are sometimes misdiagnosed as being abnormal by some vets. For example, greyhounds often have a higher than normal creatinine level, due to their muscle mass.

- Urine testing will check whether the specific gravity is lower than normal and whether there are larger volumes of released proteins, which are typical symptoms of certain types of kidney failure. The urine should also be centrifuged and examined under a microscope, as any evidence of casts (sloughed cells) will suggest a disease of the kidneys, while other sedimented red or white blood cells will suggest a primary or secondary disease elsewhere in the body.

- A complete blood count (CBC) will show any anemia, which is common in kidney failure due to decreased erythropoietin production. This hormone increases the rate of red blood cell production, so a lack of it causes a low red blood cell count, which adversely impacts on the health of all organs and tissues.

- X-rays are vital to assess the condition, size and shape of the kidneys. A reduction in the normal size of the kidneys suggests some chronic destruction of the functioning organ tissues have already taken place (chronic renal disease), while larger sized kidneys point either to cancer or to an acute renal problem requiring urgent

treatment. Specialized types of x-ray (including intravenous pyelography) can help diagnose a urinary infection, confirm the size and shape of the kidneys and give a rough assessment of current renal function.

- An ultrasound scan is very useful, as it determines how dense the kidneys are and helps confirm whether they have enough tissue remaining to perform their normal function. It is also possible to do a biopsy while conducting the ultrasound. A biopsy can, in certain circumstances, help find the cause of kidney failure.

- A comprehensive history of the dog will help assess potential problems and how and why they may have occurred. Details about the breed, where the dog came from (parentage), diet, changes in behavior and recent symptoms are all relevant, as well as a thorough physical examination to look for any other health abnormalities. When considering toxemia as a suspected cause, vets should ask about the normal habitat of the dog (such as, whether it has had access to garden and/or household chemicals, human medicines or inappropriate foods).

- The physical examination should include a comprehensive inspection of the mouth and teeth. Poor dental health and infection of the gums are common contributors to chronic kidney failure.

Step 3: Commence Fluid Therapy

Although a dog with kidney failure is drinking apparently adequate amounts of water and urinating regularly (even excessively), the build-up of toxins are not flushed from the system and continue to spiral out-of-control. In addition, a dog will probably be suffering from dehydration, despite outward signs to the contrary. The problem is they cannot conserve water for hydration because their kidneys can't create concentrated urine, so they excrete almost all the water they drink. The toxins produced by kidney failure causes severe health problems and affect the normal balance and function of other organs. This increase in toxins is due to a failure of essential balancing mechanisms, partly brought about from abnormal sodium, calcium and potassium being retained and/or released inappropriately into the blood stream.

The short-term fix for dogs with late stage-3 or stage-4 kidney failure is to rehydrate with intensive intravenous (IV) fluids, usually over at a least 3-day period. This process takes the workload stress off the kidneys and creates the best prospect of returning blood levels closer to normal.

'Dog specific' fluids are essential, which should have added minerals, electrolytes and supplements determined from the abnormal blood level readings. Further blood level checks performed during IV fluid therapy will help confirm whether the type and strength of additions to the fluid need amending. Additional blood tests will also help a vet find out whether the treatment is stabilizing the kidney failure or not.

After the first treatment of IV fluids, owners can continue the process at home by giving subcutaneous (SubQ) fluids. There is a special technique to this process, which vets should help with by training an owner before prescribing, preparing and issuing appropriate fluids and equipment. Giving SubQs at home will help reduce the cost of veterinary treatment for

the owner, and help relieve stress and anxiety for the dog. SubQs can be suspended once blood levels fall to within normal range – and re-started again, if levels start to deteriorate.

Some vets inappropriately supply normal saline solution for either IV or SubQ treatment of kidney failure in dogs. It is best to avoid saline solutions in canine renal failure (sodium abnormalities are very common with the disease), so always double-check the fluid bag label before administering. If the words 'sodium' or 'saline' are written on the bags, raise it with your vet and get them to explain why they have prescribed this type of fluid.

Step 4: Change the Diet

Most manufactured dog foods are unsuitable and damaging for dogs with kidney failure. They contain ingredients that include low-quality protein, phosphates, corn, sodium (salt), grains, unspecified animal derivatives, chemical-based preservatives, artificial colorants, sweeteners and other potentially harmful additives. These ingredients inflict stress on damaged kidneys and rapidly cause the condition to deteriorate. It is therefore crucial to change a dog's daily food intake to a renal specific diet from the point of diagnosis. It is equally important to keep to this diet and be cautious of giving treats or food scraps that have any of the 'bad ingredients' listed above.

Most dog food manufacturers now supply renal diets, which are readily available from good pet stores. These typically offer the right balance of nutrition while avoiding ingredients that are generally considered harmful. The standard approach is to offer a low-protein and low-phosphorus diet, because proteins and phosphates are more difficult for the kidneys to deal with and tend to increase the level of toxins. While this is certainly true, there is also an argument that high-quality proteins (compared with low-quality proteins) are actually suitable, safe and beneficial to dogs suffering from kidney failure. This is an important consideration for owners that produce or intend to produce a homemade diet for their dogs. High-quality proteins are often found in human-grade meats and poultry, as well as some better-quality manufactured renal-specific dog food products.

Progressively change from one diet to another over several days, incrementally adding more new food and less of the old food to a dog's bowl. This helps prevent gastric upset caused by sudden diet changes.

One of the problems with manufactured renal diets is they are very unpalatable. Overcome this by drizzling a teaspoon of something beneficial and tasty on your dog's food, such as all-natural honey, pure coconut oil or 100% virgin salmon oil.

I am not an advocate of dry foods (kibble) for dogs – and I am even less impressed over some of the claims made by the manufacturers of renal-specific dry dog food products. I believe tinned renal foods are better, because they contain about 80% water, which will help routinely rehydrate a dog that may already be dehydrated and will further aid the flushing of excess toxins from the system.

Step 5: Introduce an Anti-Nausea Medication

It is typical for dogs with kidney disease to feel nauseous with the build-up of toxins and acid in their stomach. This causes them to eat very little or refuse food altogether. When a dog starts to turn their nose up at food, ask the vet to prescribe a suitable anti-nausea

medication. There are many available and all work in a similar but slightly different way. If, after a couple of days, one particular medication fails to have the desired effect, ask the vet to change it to an alternative … eventually, one will be found to work. More consistent eating will provide much-needed energy and essential nutrients to help battle the disease.

One of the problems with metabolic acidosis is ensuring vets treat it with the right medication. Treatment involves administering an alkalinizing salt, usually sodium bicarbonate or potassium citrate, in an amount enough to increase the blood bicarbonate concentration into the normal range. Much depends on the potassium and calcium levels to decide which of the two forms of medication above are the right choice. Antiemetics for nausea and vomiting should include metoclopramide, 5-HT3 receptor antagonists such as ondansetron hydrochloride or dolasetron mesylate, or the neurokinin-1 receptor antagonist maropitant [Cerenia—Pfizer] or low doses of phenothiazine tranquilizers (prochlorperazine). Passing this information on to an inexperienced vet could prove helpful.

Step 6: Withhold All Other Medications (If Possible)

Most pharmaceutical medications have a negative impact on the kidneys. Drugs break down to produce toxic by-products, which healthy kidneys ordinarily deal with without any problems. But a dog that is already in renal failure cannot process the by-products effectively. This further stresses the kidneys and increases the likelihood of more toxins invading the canine system.

It is therefore beneficial to avoid any and all medications, except those that are necessary for maintaining and promoting good health (such as drugs prescribed for an existing illness or to treat a specific symptom of kidney failure). It is prudent for your vet to conduct a risk-assessment of any drugs prescribed, as other alternatives might be safer and more suitable.

Herbal remedies are also best avoided, unless a vet has suggested something specific. Many herbal remedies contain ingredients that can further damage the kidneys. Just because something is natural, it doesn't necessarily follow that it's safer. Remember that the most toxic substances known to man come from the natural world and some herbs and plant-extracts are more poisonous to dogs than they are to humans.

It is also useful to avoid further annual vaccination boosters (except those that are obligatory and legally required), because these will temporarily reduce the effect of the auto-immune system, causing a marked deterioration in kidney function and vulnerability to dangerous infections. Spot-on flea and tick treatments are also best avoided, although much depends on the season, the area you live and country of residence. Ask your vet about safe alternatives to such treatments and learn about preventive measures you can adopt.

There are certain medications that can promote improved kidney function or deal effectively with the repercussions of damaged kidneys. Calcitriol (the hormonally active metabolite of vitamin D) and ACE inhibitors (Benazepril or Enalapril) are among the most useful medications your vet should consider.

Step 7: Start Using a Phosphate Binder

Phosphorus is a mineral consumed in almost all foods. It converts into phosphate, which circulates in the blood. The amount in a dog's blood is normally kept in careful control, as it

needs to fall within a safe ratio with calcium to support a good and healthy bone structure. Dogs with kidney disease usually develop high phosphorus levels, because excessive amounts cannot be excreted in urine. This in turn causes bones to weaken, become brittle and break easily. Most manufactured renal dog food is low in phosphorus, but eventually the levels start to rise and bone structure becomes seriously undermined. A phosphate binder is usually prescribed to cut levels that are already out of control when diet restriction alone is no longer achieving results. A phosphorus binder helps reduce amounts of the mineral absorbed.

There are several different types of binder and, after careful monitoring and assessment of other associated elements in the blood, your vet will consider the best one to prescribe for your dog. Calcium-based or aluminium hydroxide-based binders are the most commonly used, but there are also some problems associated with them. A relatively new and somewhat more expensive phosphate binder called Sevelamer Hydrochloride (Renagel) doesn't use either calcium or aluminium and might be a better and safer alternative. Although this has proved successful in human kidney failure, it has not yet (at the time of writing) been formally approved for dogs.

Some material on the Internet recommends using ground-up egg-shell as a natural phosphate binder. One large egg-shell (washed, dried and ground) produces 2,000 mg of elemental calcium per teaspoon. Half a teaspoon is the dose recommended for a medium-sized dog with normal calcium and phosphorus blood levels.

Although supplementing with eggshells can have beneficial results, it is important to know that they contain calcium carbonate, which needs veterinary approval before being given. The only time egg shells are safe for use in this way is when the ionized calcium level in the blood is within normal range, otherwise hypercalcaemia can occur with devastating consequences. Regular blood testing is essential.

Calcium acetate (available from a vet by prescription) has much better phosphorus-binding abilities and is therefore safer, requiring about 40% less calcium to bind the same amount of phosphorus. This makes it less likely that hypercalcaemia will occur, though frequent blood testing is still required to check the situation.

Step 8: Reduce Salt & Phosphorus Intake

It is important to avoid all foods or treats containing high levels of sodium or phosphorus, as both these minerals cause more problems for dogs with kidney disease. Most manufactured renal dog foods take this into consideration, but owners devising a home cooked diet will need to give this some thought. It is also worth noting that some household water supplies are high in sodium levels, so it is better to give kidney failure dogs filtered water and not simply fill bowls from the kitchen tap.

Step 9: Introduce Useful Supplements

Beneficial diet supplements include pure organic salmon oil (containing omega-3), rice bran (a fermentable fiber), natural yogurt (only unflavored, unsweetened and low in phosphorus varieties) or a probiotic specially designed for dogs, Milk Thistle (protects the liver and kidneys), and Azodyl for dogs (which it's thought helps reduce azotemia). Many supplement manufacturers make some extraordinary claims about their products, but none to my

knowledge have been properly and scientifically tested to prove or disprove such claims. The supplements mentioned above are among those that have some veterinary and research study validity.

I also suggest adding a dessert spoon of cooked, chopped cabbage to the diet every three days. Cabbage has some excellent qualities and is known to help prevent stomach ulcers forming, which is a common symptom in kidney failure.

It is also sometimes useful to supplement with certain vitamins, notably vitamin C (as ascorbic acid), vitamin B-complex and vitamin E. However, some of these vitamins can cause adverse reactions with other treatments and/or can themselves be harmful in certain cases and depending on existing blood test results. Always consult your vet before supplementing with any specific vitamin.

Step 10: Maintain Regular Blood Level Testing

The shock of receiving a vet's diagnosis of kidney failure and details about prognosis often place owners in a traumatic and emotionally charged situation. It is little wonder that many fail to book forward appointments for blood testing there and then or in the difficult days and weeks that follow. Both regular and frequent blood testing are crucial for the treatment and management of kidney failure, because the condition can change quickly – and each change requires a slightly different approach.

The blood results will show whether the condition is deteriorating or improving and whether there is a need for other supplementation, further changes to diet or alternative medications. Some vets also have a tendency to "write off" a dog with severe chronic kidney failure and are reluctant to suggest further blood testing or offer an intensive treatment plan. In such cases, I would recommend seeking a second opinion from an alternative vet, because early intervention is absolutely crucial and time is always of the essence.

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