Be Kind to Kidneys Feeding a Dog with Kidney Disease

by Caroline Coile, Ph.D.

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You heard the veterinarian say your dog had kidney failure. Your tried to listen as she said something about diet and protein and salt and water, but the next thing you knew you were walking out of the clinic with a bag of new dog food, a head full of confusion, and a heart full of dread.

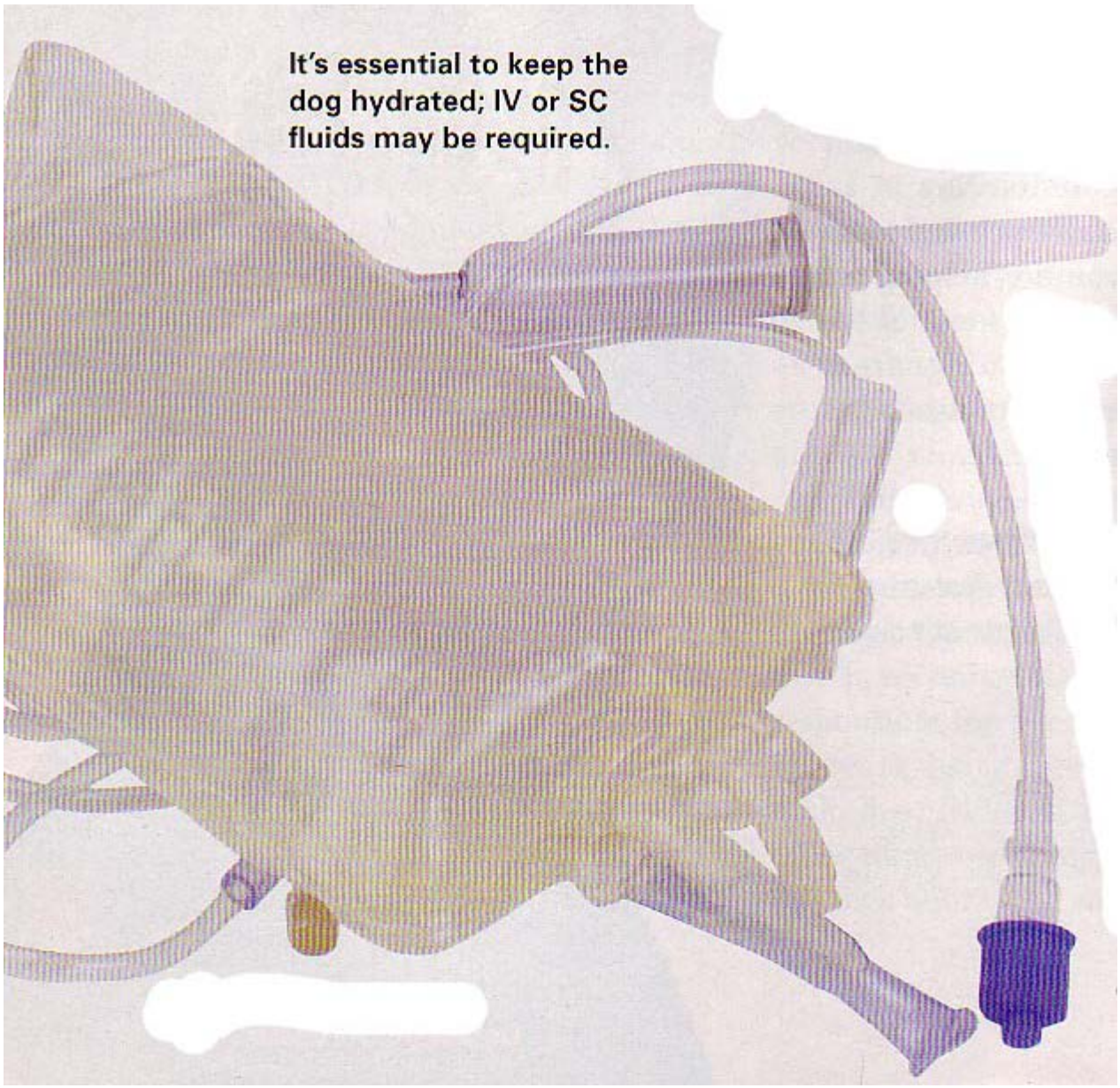
Join the crowd. Kidney disease is one of the most common diagnoses of older dogs, and owners are often left dazed by what seems like overwhelming instructions. But you *can* help your dog feel better and live longer: Diet is the key. Special prescription diets are formulated to provide nutrition without overtaxing the dog's kidneys.

Diets for normal dogs may include components that can further damage the kidneys, cause problems with bones, and make the dog with kidney disease feel ill due to the buildup in the blood of waste products the kidney can't process. By the time they're diagnosed, many dogs are already nauseous from the accumulation of such waste products. When suddenly switched to a new food, they associate it with their nausea and avoid eating it again. A better plan is to first decrease the dog's nausea by providing more water to help the kidneys flush out the waste products, and then gradually switch him to the new diet over 7 to 10 days.

Keeping Hydrated

Your dog probably is already drinking as much as he can. As the failing kidneys lose their ability to concentrate urine, the dog urinates more and needs to drink more to maintain water balance. As the kidneys continue to fail, he urinates even more until he can't drink enough to stay hydrated. At this point his kidneys can't effectively flush out toxins that make him feel sick.

You can entice your dog to drink more by offering broth or cold water, but eventually he just can't drink any more. For this reason, your veterinarian may want to give him intravenous fluids. Fluids given intravenously (IV) or subcutaneously (SC) bypass the stomach and help the kidneys flush toxins. IV fluids do the best job (and are the choice for jumpstarting a kidney-therapy program) but can't be given over prolonged periods due to quality-of-life issues. Yet, with a little practice, you can give SC fluids at home, every day, indefinitely.



Of course, water is only half the battle. Food is the other half. Kidney diets have reduced sodium, protein and phosphorus, and increased B-vitamins and calories. In one well-controlled study in which dogs with kidney disease were fed either a maintenance diet or a kidney diet, those fed the kidney diet survived at least 13 months longer, went twice as long before developing a uremic crisis, and had a significantly higher quality of life, according to their owners' reports.

Controlling Nutrients

Feeding a dog with kidney failure requires controlling several nutrients, including sodium, protein, phosphorus, omega-3 fatty acids, and calories. Many dogs with kidney failure develop high blood pressure, which can further damage the kidneys. Reducing sodium intake to moderate levels of about 0.1-0.25 percent dry matter can lower blood pressure. Avoid high-sodium foods, such as cheese, fast foods, and cured meats such as ham, bacon, and luncheon meats.

Normal kidneys excrete the urea produced as a byproduct of protein metabolism, but failing kidneys allow urea to build up in the blood, making the dog feel sick. That's why blood urea nitrogen (BUN) levels are often used an an index of kidney function. Decreasing dietary protein can decrease the BUN, but there are limits. If protein levels are *too* low, the body simply draws on its own protein source - the muscles.

The role of protein restriction i kidney disease progression has been controversial, but recent studies support the idea that protein restriction slows disease progression. A diet with about 8-15 percent dry-matter protein is suggested for dogs with moderate kidney disease, and even lower levels as the disease progresses. Protein sources with high biological value produce fewer waste products, and so are better choices. Egg protein has the highest

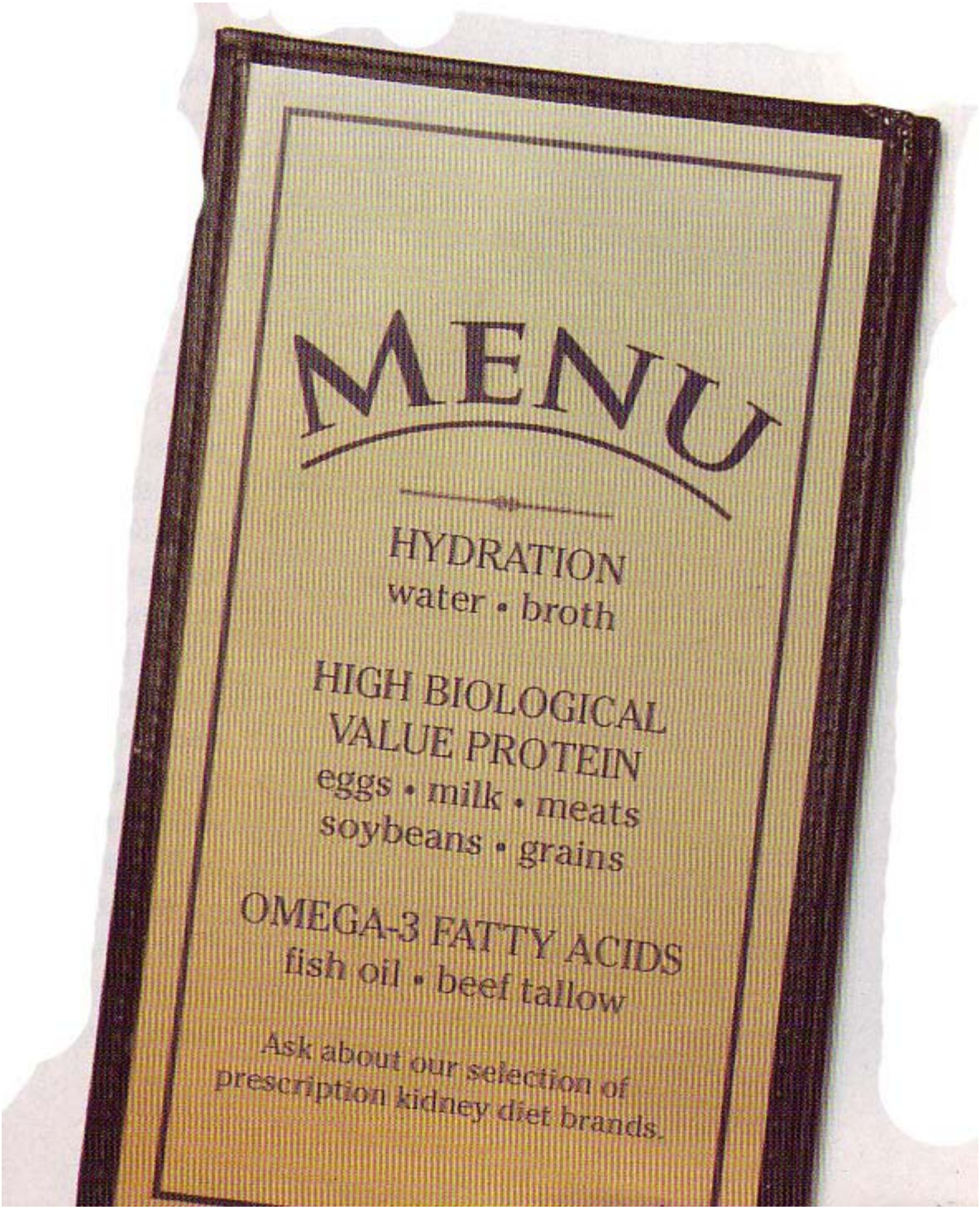
biological value, followed by milk, meats, soybean, and grains. Tofu (from soybeans) has a lower biological value but has some advantage of lower sulfur, which is also desirable.

Failing kidneys can also result in a painful and potentially fatal condition called renal secondary hyperparathyroidism because they can't eliminate enough phosphorus from the body and can't produce sufficient calcitriol, which regulates calcium and phosphorus absorption. When the ration of phosphorus to calcium in the bloodstream is too high, the body pulls calcium from the bones to achieve the necessary balance and also tries to mineralize soft tissue to make up for the bone loss. This occurs most noticeably on the jaw, which becomes enlarged, weakened, and painful.

Excess phosphorus also affects the kidneys themselves. In one study comparing the effects of phosphorus levels in dogs with experimentally induced kidney disease, only 33 percent of the group fed a high-phosphorus diet survived after three months, compared to 75 percents of the group fed a diet low in phosphorus. A diet containing 0.15-0.3 percent dry matter phosphorus is recommended for dogs with kidney disease.

Phosphate binders given at mealtimes can help prevent phosphorus from being absorbed in the intestines, but they alone cannot ameliorate the effects of a high-phosphate food. (Phosphorus is found in dairy products, bones, beans, peas, and nuts.)

While sodium, protein, and phosphorus must be kept low, omega-3 fatty acids should be kept high. Dietary fatty acids appear to affect kidney function and survival rate, but the fat *source* is important. Dogs with kidney failure who were supplemented with fish oil - and, to a slightly lesser degree, beef tallow - had a much longer survival time than those supplemented with safflower oil. Salmon oil (fish body, not liver) is generally suggested because of the ratio of omega-6 to omega-3 fatty acid, which should be less that 2.5:1. A maximum of 1,000 milligrams per 10 pounds of body weight is suggested.



To properly manage kidney disease and diet, your dog's blood levels should be regularly tested not just for BUN and creatinine, but for potassium, phosphorus, calcium, and red blood cell levels, as well as anything else your veterinarian suggests. This is the only way to determine your dog's best diet as the disease progresses.

It's important to keep calories high enough to maintain weight. If your dog won't eat hs kidney diet, you can play tough and hope he eventually gives in. But because many kidney dogs have reduced appetites, you many *not* win. It's better that your dog eat a bad diet than an insufficient one. Try other kidney-diet brands; several are on the market, and your veterinarian can order any she doesn't stock.

You can also try preparing the dog's food differently: One popular method is to slice the canned kidney food and bake it into crisp "cookie" treats. Try preparing meals based on kidney friendly recipes such as those found in Home-Prepared Dog & Cat Diets, by Donald R. Strombeck, DVM, Ph.D. (Wiley-Blackwell, 1999). Look for treats, preferably high-calorie ones, that don't violate too many of the kidney-diet requirements. You can add extra calories from simple carbohydrates such as sweets (other than chocolate), or from extra fats in the diet.

If all else fails, consider force-feeding the kidney diet for part of the dog's daily intake, and letting him eat whatever he will, kidney-friendly or not, for the remainder. Keep in mind that a dog's meals are a highlight for him; don't lose track of what's important in your dog's life, and consider making compromises as needed. Keep his quality of life high: Remember, your goal isn't just to keep him alive, it's to keep him happy.

Caroline Colie is the author of more than 30 books about dogs and is a two-time winner of the AKC Canine Health Foundation Research Communication Award from the Dog Writers Association of America. Her Salukis have won awards in conformation, lure coursing, obedience, agility, and rally.