# Testing Requirements for Vegan Dogs

There have been no long term scientific trials to test the adequacy of vegan dog diets or to track the health of a large number of dogs fed a vegan diet on a long term basis. While diets need to contain the minimum nutrient requirements for our dogs, this does not accurately reflect the bioavailability of those nutrients to our dogs. Therefore, the only way, at present, to determine if our dogs are doing well on vegan diets, is to monitor the health of each individual dog.

Minimum Testing Requirements for Vegan Dogs:

1. Twice yearly physical exam by a veterinarian

- Deficiencies in certain amino acids can lead to a heart condition called Dilated Cardiomyopathy (DCM). Dogs need sufficient l-carnitine and taurine in their diets to help reduce the risk of DCM. While we can test both l-carnitine and taurine levels in the blood (see below), the levels of l- carnitine in the blood may not reflect the levels in the muscle tissue of the heart. Therefore, we cannot really test if our dogs have sufficient l-carnitine for a healthy heart. Hence, your veterinarian will need to check your dog's heart regularly as part of a twice-yearly physical exam

1. Twice yearly general blood test including complete blood count and biochemistry.

- This is standard blood testing that all vets can conduct. Your vet will need to check that your dog has adequate red and white blood cell counts, total protein (including albumin) and BUN (blood urea nitrogen);

1. Vitamin B12 (cobalamin) levels:

- All cells in the body require vitamin B12 for certain metabolic functions. All vegan dogs must be supplemented with vitamin B12. Commercial vegan dog diets generally contain vitamin B12, but we do not have enough studies to know if this will meet their vitamin B12 requirements without additional supplementation. Hence, it is recommended that all vegan dogs have their vitamin B12 levels tested twice a year. This is done with a simple blood test. As vitamin B12 is a water-soluble vitamin, it is difficult to overdose on it. Therefore, supplementation is recommended regardless of what is added to the commercial diet.
Options for supplementation are:

* + Getting a Vitamin B12 injection from your veterinarian every 1-3 months (depending on your dog's levels at the time of testing); or
	+ Giving your dog a daily Vitamin B12 oral supplement: 1-10kg body weight = ¼ of a 1mg tablet once daily 10-20kg body weight = ½ of a 1mg tablet once daily >20kg body weight = 1 x 1mg tablet once daily. Obviously, if your dog is difficult to tablet, you may opt to have your vet give the injection, as this is required less frequently (provide your dog is not deficient in vitamin B12);
1. Taurine levels tested annually:

- Taurine is required for healthy heart function, particularly for reduced risk of developing Dilated Cardiomyopathy (DCM). Taurine is not an essential amino acid in dogs, which means that dogs should be able to synthesize adequate amounts of taurine themselves. Yet several studies of dogs with DCM found that they were deficient in taurine. While there may be certain breed specific abnormalities that contributed to the deficiencies, there is also concern that low protein, high fibre diets may play a role in taurine deficiencies. Taurine levels should be tested at least once a year for all dogs on vegan diets, and twice yearly for vegan Golden Retrievers, American Cocker Spaniels, Newfoundlands and Portuguese Water Dogs (which may have genetic predispositions to taurine deficiency);

1. Urine and urination monitoring done at home regularly:

- Dogs on vegan diets have urine with an alkaline pH. This can predispose them to urinary tract infections and certain bladder stones. Regular urine testing by the vet will always show alkaline urine in a vegan dog, and so monitoring of urination and urine by vegan dog parents is the best way to track urinary health. Please take your dog to the vet if you see any of the following:

* + Inappropriate urination (e.g, urinating in the house, in bedding etc)
	+ Blood in urine
	+ Not producing a full urine stream (i.e. little squirts of urine) or squatting for an extended time to urinate.
	+ Licking the genital area more than usual.

If you notice any of these with your dog, please collect the first urine of the morning in a clean container and take the sample to your vet.

If your vet is not familiar with monitoring of vegan dogs, please take this handout to your next vet visit so that your vet knows which tests need to be run.

Finally, please be patient with your vet. As mentioned, we do not have a lot of solid research in the area of vegan dogs yet. There will be many questions that your vet will not be able to answer simply because there may not be any clear answers yet.

Stay patient. The world will catch up with us.