

Integrative Therapy in Dogs with Nervous System & Other Disorders

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Introduction:

Maintaining health is becoming increasingly difficult. All animals are born with a tremendous capacity to heal. In fact, most (up to 80%) patients who experience a temporary illness will overcome the illness without costly intervention. This healing system is now beginning to be understood and involves an integrated system of immune regulation by the body, offering resistance to disease and injury. Unfortunately, this healing system can be overwhelmed by many factors including poor diet, bad hygiene and chronic exposure to environmental stresses. Pollution in the environment leads to internal pollution as the pollutants are concentrated over time. Internal pollution poisons the healing system. In the worst cases, one of two outcomes can be predicted. The immune system can be increased, leading to chronic immune diseases. Alternatively, the immune system can be shutdown, leading to cancer. It is not always possible to live in a pollution-free environment, it can come into the body through air, food or water. On the other hand, the latter sources of pollution can be minimized through healthy nutrition and safe drinking water.

Traditional Western medicine is excellent in diagnosing disease and in treating acute disease. However, the treatment of chronic immune disease and cancer have yet to achieve the same level of success. Part of this is due to the fact that these conditions respond slowly and best when the healing system is taken into account during the treatment process. Eastern medicine, which involves long-term changes in "life-style", has many aspects which make it better in treating chronic conditions, since the goal of Eastern medicine is to support the healing system. A new concept which is beginning to take hold in the West is "Integrative Medicine", where the best of both Western and Eastern medicine are combined to offer the patient the best chances of returning to health. If an animal breaks its leg, it needs to be taken to an emergency facility to have it diagnosed and "set". Once this has been performed, then the patient needs to heal, by whatever means supports that best.

This series of pages is designed to explain certain changes in diet, life-style and supplements for which there is ample scientific evidence to suggest that they will help animals stay healthy and to assist them when healing from disease. Many of the recommendations are good for all

dogs, while others recommendations are made for specific conditions. Some of the measures should be initiated early in the life of the dog, so that their maximal impact in improving the dog's "life-style" can be seen. Other measures should be added as the dog ages to help maintain health through all phases of life. The effects of "lifestyle" changes will always be seen; however, these measures are better at preventing disease, than stopping it when the disease process is far advanced. It is never too soon for healthy choices. As with any form of medication or treatment protocol, consult with your veterinarian about the appropriateness of these suggestions for your dog.

Exercise:

The importance of regular aerobic exercise in the prevention of chronic degenerative diseases should not be overlooked. Many studies in human beings have demonstrated improved muscle performance, memory and cerebral blood flow in patients who undertake aerobic exercise. Many of the goals of treatment in chronic neurodegenerative diseases are obtainable through regular exercise. Two forms of exercise seem the most useful: walking and swimming. Both have their merits and they may not be exclusive. A number of owners have reported that swimming assists dogs beyond the exercise of mere walking. Swimming generally increases muscle tone and allows movement without stress on joints. Walking, on the other hand, helps build strength, since gravity is involved. In older patients, particularly those with arthritis, gradually building the exercise program is important. In addition, allowing a day of rest between heavy workouts can help the patient recover faster from the exercise. A good general reference of exercise physiology and exercise programs is a book by Jeff Galloway: *Galloway's Book on Running* , Shelter Publications, Inc., Bolinas , CA , 1984.

I recommend starting with 5-10 minutes of walking or swimming every other day for 2 weeks. Then, increase the length of exercise time to a goal of 30 minutes twice a week and a long walk of 1 hour once a week. If your dog already exceeds this limits, that is fine. However, remember to provide a day of easier exercise between vigorous workouts. This is particularly important as the patient gets older. It is sustained exercise which is important, walking in the backyard is not adequate. Many patients with chronic spinal disorders have remained functional because of exercise alone. We use to think that hospitalization was harmful to patients. We now know this is the lack of exercise which is harmful. Make sure your pet gets their exercise if they are hospitalized or kenneled for any period of time.

Dietary Considerations:

Dietary and dietary supplement management of dogs has not received great attention. We, and others, have long sense recommended certain dietary additives do in part to deficient levels of certain vitamins in dogs afflicted with some disease. On the other hand, diet may have a powerful influence on the development of chronic degenerative diseases and new information suggests that dietary regulation might play a more significant role in the progression and development of diseases like Multiple Sclerosis (MS). Elimination of toxins from pre-processed food may assist in preventing a number of immune-related disorders. Diet might help in correcting this defect and allow the immune system in dogs to stabilize. The principles of dietary therapy are outlined here, including a "home-made" diet. For those who cannot "cook" for their dog, the basic diet should be supplemented with the additional ingredients listed below. It is best to choose a dog food which is close in protein content and is as "natural" as possible. Wild dogs were not meat eaters. They ate bodies, including intestinal contents (often laden with plants and plant materials). Dogs have evolved so that eating animal fats and protein do not cause them to suffer the same problems as human beings when eating these sources of saturated fats. Even so, dogs probably suffer from the same causes of dietary and environmental intoxication which affects human beings.

The basic diet and its components have been check for balance. In addition to the basic components, we are adding vitamins, minerals and natural herb supplements for which no specific requirement is known or at levels which are to provide a specific pharmacologic effect. Again, we recommend those compounds which scientific evidence supports their efficacy. Used according to the following formula, the diet and compounds should not do any harm and have the potential to do good. By cooking for your dog, you can select healthy products which do not have preservatives and additives which might be harmful. In addition, you have the option to use organically grown foods. If the dietary approach is successful, patients may not need to use other medications to prevent further deterioration.

Basic diet: (based upon 1 serving size for 30-50 pounds body weight)

2 oz Boneless Pork Center Loin Chop (boiled, baked or fried in olive oil)

4 oz Tofu (soybean curd)

8 oz Long Grain Brown Rice (3 oz cooked in 6 oz water)

2 tsp Extra Virgin Olive Oil

¼ cup Molasses

2 Whole Carrots (boiled and then cut up)

1 cup Spinach (cooked)

4 Tbs Green Bell Pepper (chopped and steamed)

4 Broccoli Spears (boiled and then cut up)

This diet (1 serving for 30-50 pounds body weight) provides approximately 1160-1460 calories per serving. You can substitute poultry meats, beef and lamb for the pork chop. This will alter the composition slightly, mainly by adding additional fat. The weight of meat is based upon boneless weight. Most of the items can be prepared in a microwave. Based upon your dogs body weight, you will need to make more or less. For example, if your dog weighs 80 pounds, multiply all the ingredients by 1.5 (can be as high as 2.5 times, though), keeping their relative proportions. This is a starting point. You can also make this portion of the diet in advance, aliquot it into appropriate quantities and freeze it for later use. Just before feeding time, remove the diet from the freezer and thaw in hot (or boiling) water or microwave to defrost. To complete the diet, add (amount per serving) before serving:

1 tsp Dry Ground Ginger

2 Raw Garlic Cloves (crushed)

½ tsp Dry Mustard

1 tsp Bone Meal

Using the above diet, approximately 1 serving equals 1 can of commercial dog food. The exact requirements for your dog can be approximated by substituting the diet on that basis. You should weigh your dog each week, if losing weight, increase the amount of the diet given. If gaining weight, cut back on the amount given. Eventually, the correct amount will be clear. The reason why the amount has such a broad range is that ideas about the daily caloric requirements vary. Since many dogs have sensitive stomachs, it may be wise to phase in the new diet by mixing it with their existing food until they have adapted. Start by mixing the diet with their existing food in equal amounts. After 1 week, increase the diet to 75% of their food. After another week, switch completely over to the diet. This diet is balanced and high in most of the vitamins and minerals which your dog will need. Any shortcomings will be corrected with the supplements given below as part of the treatment.

Note: The general purpose of the diet is to provide excellent quality of ingredients with protein coming from Soybean curd (tofu). Tofu contains many valuable flavonoids and other ingredients which promote health. If you decide to use a commercial food, you may want to use a Soybean Concentrate which contains these ingredients, but lacks the extra protein. Alternatively, you can add tofu to the diet (5-6 oz/day) and add honey or molasses to it (¼ cup) to make it taste better.

Reduce the commercial diet by 25-33% and monitor your dogs weight, reducing or increasing the commercial diet accordingly. The addition of raw garlic is to provide garlic's anti-inflammatory action and (since it is raw) to provide an antibiotic action. Raw garlic is antibacterial and anti-fungal. This action is lost when garlic is cooked or dried. Dry ginger is also a good anti-inflammatory. Together with garlic, dry ginger can replace the need for aspirin-like (NSAID) drugs. Fresh ginger or pickled ginger are also good anti-emetic compounds, calming the stomach. Mustard provides ingredients which support improve digestion and bowel function. So, raw garlic, dry ginger (occasionally using fresh or pickled ginger) and dry mustard should be added to the food, even if it is commercial. These will not unbalance the commercial food, providing important drug properties without the side-effects of "non-natural" drugs. Using the vegetables, the diet also provides many nutrient and vitamins which are not found in commercial dog food. If commercial dog food is given, giving extra Soy Concentrate, Soy Lecithin and Beta-Carotene to the diet will improve the commercial food. They are not needed, if you feed the above diet. The diet provides a balanced, moderate protein and fat diet which is high in many essential nutrients. The only commercial food which fulfills many of the goals is

Nature's Recipe

Canine Vegetarian Diet

, available from many specialty pet supply stores.

Vitamins:

Multivitamins:

If your dog is on commercial dog food or on the above "home-cooked" diet, there is no need for a multivitamin supplement. If you desire to give your dog a multivitamin, then one of the pet vitamins daily is plenty.

B complex:

B complex is a balanced form of vitamin B supplementation; which is the only way B vitamins should be given, unless specifically instructed to give one of the B vitamins by your veterinarian. B vitamins are cofactors for a number of important biological processes. They are important in maintaining a positive environment for neural regenerative efforts. In addition, they are water soluble so that any excess is merely eliminated in the urine. I recommend that all dogs receive B complex supplements twice a day. For small dogs, use the regular B complex. For medium size dogs, use high potency B complex (B 50s). For large dogs, use high potency stress formula B complex (B 100s).

Antioxidants:

Vitamin E:

Vitamin E is an important nutrient which has been shown to have a number of physiologic and pharmacologic effects. It is a potent antioxidant and reduces fat oxidation and increases the production of HDL cholesterol. At higher doses, it also reduces cyclooxygenase and

lipooxygenase activities, decreasing production of prostaglandins and leukotrienes. As such, it is a potent anti-inflammatory drug. It will reduce platelet function and prolong the bleeding time slightly in healthy individuals. There is no known side-effects to vitamin E at levels less than 4000-6000 IU per day (except in cats, where levels >100 IU/day can create hepatolipidosis). I recommend that vitamin E be given to all dogs. For dogs under 2 years of age, give 400 IU of vitamin E daily. For dogs over 2 years of age, give 800 IU of vitamin E daily.

Vitamin C:

Vitamin C works with vitamin E and helps regenerate vitamin E, potentiating its antioxidant effect. Vitamin C supplementation does no harm, since the excess is excreted through the kidney. While dogs produce vitamin C in their bodies (unlike human beings and guinea pigs who must have it in their diet), under stress or disease, they may need vitamin C in excess of their manufacturing capacity. In excessive dose, vitamin C can cause flatulence and diarrhea. This intestinal tolerance level varies among dogs, but is generally around 3000 mg per day in an adult German Shepherd. I recommend this be given to all dogs. For dogs under 2 years of age, give 250 mg vitamin C twice a day. For dogs over 2 years of age, give 500 mg of vitamin C twice a day.

Selenium:

Selenium is an important mineral which has antioxidant properties similar to vitamin E. Vitamin E can replace the requirement for selenium in the body, but selenium cannot substitute for vitamin E. In addition, selenium does not cross the blood-brain barrier like vitamin E. On the other hand, selenium may help allow vitamin E to be more effective. Many plant sources are low in selenium and supplementation may be important. Selenium can create toxicity if given at too high a level; therefore, never give more than 200 µg of selenium per day in large dogs nor more than 100 µg per day to small dogs.

Beta-carotene:

Beta-carotene is an important antioxidant which may protect against certain forms of cancer. It is available in fresh vegetables and can be provided by eating plenty of these. If vegetables are lacking in the diet, then supplementation with extra beta-carotene is probably wise. The dosage

should be between 10,000 and 25,000 IU daily, depending upon the size of the dog. It is available through most health food stores. On the other hand, it is easier to give a carrot, providing not only the beta-carotene, but also other nutrients. (One medium raw carrot has 25,000 IU of beta-carotene; cooking reduces the content by half.)

Membrane stabilizers:

Omega-3 fatty acids:

Omega-3 fatty acids like EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) are the constituents of fish oils that act as anti-inflammatory agents and may be worth trying if your dog has an autoimmune disorder or arthritis. Many versions of these substances are on the shelves of health-food stores, from salmon oil to capsules of concentrated EPA. However, eating some cooked salmon or sardines may have benefits over capsular forms of the fish oils. Alternatively, you can give ground flax seeds, flax oil, or hemp oil as a dietary supplement; rather than fish oils. These materials will reduce platelet function for a brief period in dogs, but it seems that dogs compensate for this within about 8 weeks. Omega-3 fatty acids replace the 2-series fatty acids over time. As such, cellular stimulation produces 3-series prostaglandins and thromboxanes. The later does not cause inflammation and reduce blood flow like the 2-series thromboxanes. I recommend all dogs receive 1000 mg of fish oil capsule, 1 T ground flax seeds or eat 2 sardines every day. Since some studies have demonstrated negative or adverse effects using fish oil capsules (due to spoilage), I prefer giving sardines or ground flax seeds as the supplement source.

Gammalinolenic acid:

Evening primrose oil, black currant oil or borage oil are natural sources of gammalinolenic acid, a fatty acid which is hard to get in the diet. GLA is an effective anti-inflammatory agent with none of the side effects of anti-inflammatory drugs. It also promotes healthy growth of skin, hair, and nails. It may be good for skin conditions, arthritis, and autoimmune disorders. It takes six to eight weeks to see changes after adding GLA to the diet. I recommend small to medium dogs receive 500 mg of a GLA source daily, either as evening primrose oil, as black currant oil or as borage oil. Large dogs should receive 500 mg of a GLA source twice a day.

Herbal Supplements:

Ginkgo leaves:

One tonic I recommend is an herbal preparation made from the leaves of the ginkgo tree (*Ginkgo biloba*). Recently extracts of ginkgo leaves have attracted much attention from researchers because of their ability to increase blood flow to the brain. You can buy capsules of these extracts in most health-food stores, although different brands vary considerably in their content of active ingredients (ginkgolides). Ginkgo is nontoxic. For dogs with nervous system disorders, give 1 capsule twice a day.

Ginseng: (males only)

Two species of ginseng are available: Oriental ginseng (*Panax ginseng*) and American ginseng (*Panax quinquefolium*). Both are full of compounds (ginsenosides) that work on the pituitary-adrenal axis, increasing resistance to stress and affecting metabolism, skin and muscle tone, and hormonal balance. Oriental ginseng is more of a stimulant and can raise blood pressure in some people, so I recommend using only the American species for dogs. Ginseng probably has little to offer young dogs, but may provide an increase in vitality to older one. I recommend using 1 capsule of American ginseng once or twice a day in male dogs over 6 years of age.

Dong quai: (females only)

Dong quai is a Chinese herbal remedy made from the root of *Angelica sinensis*, a large plant in the carrot family. It is often called "female ginseng," because it is a general tonic for women and the female reproductive system in much the same way that ginseng acts as a tonic for men and the male reproductive system. Dong quai is available in the form of encapsulated extracts. It is a good general remedy for female dogs who lack energy. I recommend using 1 capsule of dong quai once or twice a day for female dogs over 5 years of the age.

Green tea:

Green tea is a good general tonic and has some cholesterol lowering effects. It also contains theophylline which can help boost energy. It is available as a capsular extract or you can make green tea and add it to the diet. I recommend 1 capsule (or cup) twice a day for dogs.

Grape seed extract:

A great deal of recent evidence supports the value of grape seed extract in reducing free radicals and decreasing the chances of developing chronic diseases. It is best to use standardized extracts. Alternatively, your dog can drink 1 cup of "purple" grape juice a day. The dose of the extract is 1 capsule daily (usually 50 mg in strength).

Siberian Ginseng:

Siberian ginseng is derived from the root of a large, spiny shrub (*Eleutherococcus senticosus*) found in Siberia and northern China. It is a relative of true ginseng, but has entirely different properties. Siberian ginseng has "adaptogenic" properties and reduces physiologic responses to stress. Scientific investigations suggest it increases physical performance and endurance and improves immune function. For dogs, give 1 capsule twice a day.

Human-Animal Bond:

An important aspect of your pet's development is play and attention from you, the owner. Not only do human beings benefit from contact with animals, animals benefit from the care and interaction with their owners. Companionship and care given mutually will help the owner and the pet live happier and healthier lives. No matter how busy or hectic things seem to be, be sure to spend time with your pet. It is best to set aside play time. This can be part of the regular exercise period, but also make time to cuddle, hold and touch your pet. It is also good to "practice" manipulations which might be needed in times of injury or illness so that they will be less stressful should they be needed. Don't worry, your pet will welcome the attention.

Vaccinations:

Two things have been ingrained in the teaching of veterinarians for years: 1) dogs should eat dog food and 2) dogs should be vaccinated yearly for every disease imaginable. Hopefully, we have dispelled the myth for the former; that is, dogs should eat good food, not necessarily dog food. If we place food for dogs on a scale of 1 to 10, then balanced, home-prepared food (such as the diet above) rates a 10, since it can use fresh, choice ingredients. Highly processed food, like hamburgers, french fries and T.V. dinners (which some owners eat), probably only rate a 1 for dogs. Good commercial dog foods rate a 6-7, without other additions. Nature's Recipe (Canine Vegetarian diet) rates an 8.

Currently, we recognize that dogs probably are over vaccinated and there is mounting evidence that these vaccinations may play a role in the increasing incidence of auto-immune diseases and even cancers that we see today. Unfortunately, no one knows the real need for vaccination, but yearly boosters for all infectious diseases is overkill. Clearly, in many cases, the vaccinations are not necessary and giving them may cause problems. The risks of not giving vaccinations (once the healthy young dog has been adequately immunized) is becoming less than the risk of giving them. This is an important issue and more data will be coming based upon the current research and observations by concerned veterinarians. This is what appears to be the prevailing view that dogs should receive their puppy series against the major canine diseases, including parvovirus and bordetella. These vaccinations should be repeated at 1 year of age. After that time, only necessary vaccines should be given. That includes, of course, the legally required rabies vaccinations. On the other hand, it is clear that rabies vaccination is effective for up to 3 years in the dog. As such, it may be necessary to lobby local and state governments to reflect rabies vaccination requirements which fit the scientific evidence. Once puppyhood is over, further parvovirus vaccination is probably unwarranted. The disease in adults is mild and self-limiting. Intranasal vaccination for bordetella may provide life-long immunity. In areas where Lyme's disease or leptospirosis are not prevalent, vaccination for these agents seems unnecessary. On the other hand, vaccination for canine distemper and canine hepatitis virus are probably warranted at some time while the animal ages. There are currently 3 ways to do this: 1) monitor titers and vaccinate when the IgG antibody titer drops below 1:50 (although this may not be any more valid than guessing), 2) re-vaccinate when the dog gets 10-12 years old (which in many cases will be adequate), or 3) play the odds and vaccinate every 3 years (which is similar to the recommendation for cats by the Board of Feline Practitioners).

No one wants their pet to contract a preventable disease, yet most healthy animals do not need vaccination as often as is currently practiced. Immunodeficient animals may not respond adequately regardless of the vaccination schedule. Discuss these options with your veterinarian and make an informed choice about vaccination. Hopefully, your veterinarian will have thought and struggled with these issues and be able to support your decision about your pet's health. *R*

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: Just because your dog does not need yearly vaccinations, they should still have a yearly check-up by your veterinarian!

Links to Integrative Therapy for Specific Conditions:

- [*Hydrocephalus and Other Degenerative Brain Diseases*](#)
- [*Arthritis \(hip dysplasia\)*](#)
- [*Allergies \(itchy dogs\)*](#)
- [*WienerDogs \(intervertebral disc disease\)*](#)
- [*Heart Disease \(congestive heart failure\)*](#)
- [*Gastroenteritis \(vomiting and diarrhea\)*](#)
- [*Otitis externa \(ear infection\)*](#)
- [*Cancer*](#)

Disclaimer: The information presented here is for educational usage. It is not an endorsement of any particular product. You will need to discuss the measures and natural alternatives with your veterinarian. If the problem worsens or new signs develop, discontinue medication and seek appropriate veterinary medical care. This material represents the views of the author and does not necessarily reflect the views or policies of the VMTH or the University of Florida .