

NUTRITION AND LONGEVITY



There are many factors that influence longevity and cancer risk but nutrition is one of the most important. Even not considering obvious nutritional problems like vitamin deficiencies, what food a pet is eating has an effect on injury risk, organ function, cancer development, the brain and immune system.

Why We Are Picky About Pet Food

- Pet food companies lie! Almost 1/3 of 52 products tested by The Pet Food Institute in a recent study contained meat protein not listed on the label, especially pork. Four foods that listed beef on the label, in fact, contained no beef. Blue Buffalo, a company that touts its diets for not containing grains or by-products, in fact, was found to contain both. Half of "Lite" pet foods exceeded government regulations for calories per cup. We could go on and on.
- Who is formulating the food? Do the ingredients make sense? Flax contains Omega 3 fatty acids but dogs and cats are unable to digest it so it is useless to them. Seeing flax seed on a pet food ingredient list is a big red flag that tells us the company that made it has no veterinary nutritionist on staff.
- We recommend food that is manufactured by a company that
 - 1) Does nutritional research, including feeding trials.
 - 2) Tests both the ingredients that go into the food and the end product.
 - 3) Manufactures its diets in its own plant.

There are many nutritional factors we could assess so it gets complicated, but we want to give you some simple guidelines as to what to look for and what to avoid when it comes to nutritional ingredients and supplements.

One of the most important things to remember is that cancer takes years to develop. What you are feeding now, if you have a young dog or cat, is already influencing what diseases your pet will develop many years from now. Avoiding cancer is a key to successful aging because cancer is the leading cause of death in older pets and nutrition has a lot to do with cancer development.

There are several ingredients that have been found to increase cancer risk and decrease lifespan. The first of these is sugar. Grains are not at all unhealthy, despite what you hear in pet food ads. It's what we do to the grains that make them dangerous. Whole grain, containing fiber and complex carbohydrates, is healthy for both humans and dogs. Flour, sugar and processed grains are not. We would actually rather you feed a diet with whole grains than potato as they carbohydrate ingredient. You should stay away from any diet or treat that

contains flour, cornmeal, corn syrup or any other processed carbohydrate. Cancer loves carbs! Sugar is metabolized in the body to molecules that can cause cell damage. It also stimulates insulin production and insulin has damaging effects as well.

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The spike in blood glucose level that occurs after eating a high carbohydrate meal or snack promotes cancer development and progression.

A big factor in the development of cancer, as well as allergies, arthritis, cardiovascular disease and many other disorders, is inflammation. Inflammation is a system whereby damaged cells stimulate a repair process that brings increased blood flow to the injured area, as well as white blood cells, antibodies and other substances to stimulate healing. This is fine if the inflammation is short lived, say after a small wound or minor injury. Chronic inflammation, however, causes damage.

It has recently been discovered that a specific sugar called Neu5Gc that is found in the fat of red meat promotes antibodies, inflammation and cancer. Humans make an enzyme that breaks down Neu5Gc but in dogs it becomes incorporated into cell DNA. This foreign sugar then generates an immune system response and results in the formation of antibodies. Antibodies are part of the inflammatory process. It is better to have chicken or turkey as the meat source than beef because of this Neu5Gc sugar.

Heart valves, joint cartilage and kidney cells are among the tissues that are damaged by chronic inflammation. Long term inflammation also leads to cancer. Anti-inflammatory substances, including Omega 3 fatty acids, non-steroidal anti-inflammatory drugs such as Rimadyl or Deramaxx and many nutrients that act as antioxidants all increase life expectancy by reducing inflammation. OM3s and NSAIDs augment each other when used together, with greater effect plus reduced risk for side effects from the NSAIDs.

Fatty acids come in two types, Omega 3 and Omega 6. Omega 6 fatty acids, found in most plant oils, promote and sustain inflammation, though they do give the skin and coat a nice shine. Omega 3 fatty acids, the good kind, can be found in algae and in the bodies of fish that eat algae. Farm raised fish that eat pelleted diets instead of natural foods such as algae do not contain Omega 3 fatty acids. Many times when you buy fish oil you are getting oil from farm raised fish that don't contain Omega 3 fatty acids, so you would actually be getting the harmful Omega 6 type of oil. Look for the amounts of DHA and EPA in any fish oil supplement you buy. Those are the ones you want.

What if my pet already is older or already has cancer?

- Limit carbohydrates – fruits, vegetables & whole grains are fine but try not to give bread, crackers, cookies, or other foods containing flour or sugar. Dog treats are often loaded with carbs and salt. “Grain-free and “Low Carb” are not the same thing! If it has no grain but contains potato instead a diet can still be high in carbohydrates.
- Start fatty acid supplementation now. Even though it may be too late to prevent cancer you will still be treating arthritis and other inflammatory diseases. Fatty acids enhance the effects of chemotherapy and radiation. Using fish oil along with cancer treatment can increase survival time considerable – 30% in some studies!
- Don't over do it! Protein and supplements are great at recommended dosages but a moderate amount of high quality protein is better than a large amount. Eggs, chicken meat, and turkey meat are best but tofy and dairy products can be good as well.

Fish oil isn't a very concentrated source of DHA so you have to give a fairly large amount of it. That's why those capsules are so large. Fish oil is often contaminated with organophosphates and heavy metals. (One of the brands we carry, Nordic Naturals, is one of the few brands that test the oil for contaminants on a regular basis, though even they don't test every batch). It's actually safer and easier to take oil derived from algae instead. Protectacell, made by Animal Health Options, is a brand we recommend. Right now you have to search to find Omega 3 supplements derived from algae but in the future algae farms will probably be a more efficient and less expensive way to obtain these nutrients.

Don't stock up on fish oil. It degrades quickly, especially in liquid forms. If it gets old it won't be effective.

Another big factor to keep in mind is the amount of food you feed. Keeping pets lean increases lifespan by two years and increases the quality of that life as well. Our goal is not just to increase "lifespan" but to increase "healthspan" – the number of years your pet is healthy and feels

good. Lean pets also develop arthritis two years later than overweight pets, so both healthspan and lifespan increase by two years if pets are not allowed to overeat. This is because fat cells produce toxins that damage other cells. Damaged cells, especially if the DNA is damaged, can turn cancerous.

Oxidation is a process that breaks down chemical bonds between molecules, another way that cells in the body become damaged over time. Many vitamins and other nutritional substances have antioxidant properties – they protect cells from oxidative damage. Vitamins A & E, selenium, fatty acids and Beta-carotene all have antioxidant effects. However, overdoses of any of these actually increase cancer risk. It is very important to give supplements at the proper dosage; otherwise you will shorten lifespan instead of lengthening it! This is another reason why you should not purchase a pet food that was developed without the help from a veterinary nutritionist. It is very easy to create a pet food that meets minimal government standards but it's much more difficult to formulate one that provides the precise amounts of vitamins a dog needs for the greatest possible healthspan.

In summary:

- Limit carbohydrates but don't overcompensate with protein.
- Supplement with fatty acids, either fish oil or from an algae source – not from flax!
- Don't over-supplement!!
- Avoid beef as a protein source.
- Ingredients that are vilified in advertisements are not necessarily bad, including grain, corn, soy, and by-products.
- Just because it's on the label doesn't make it true! Choose a diet from a company we recommend for its research and quality control.