

Protecting Health

by Deva Khalsa, VMD

In high school science you may have used litmus paper to measure the pH of a solution. You found that vinegar and lemon juice are acids so they taste sour, while baking soda is alkaline (or a base) and therefore tastes bitter. When you measure the pH, you're discovering if a substance is acidic or alkaline. But what in the world does pH really mean? The abbreviation pH stands for "potential hydrogen." The pH of any solution is the measure of its hydrogen ion concentration. The higher the pH reading the more *alkaline* and *oxygen-rich* the fluid is. The lower the pH reading, the more *acidic* and *oxygen-deprived* the fluid is. Being *oxygen-rich* is a key to the health of cells and organs.

Healthy functioning of the liver, pancreas, gallbladder, hormones, and other organs and systems depends on alkaline conditions. The more alkaline their environment, the better they perform. The body's pH is one of the most important factors affecting health and organ function. The pH of the fluid around the cells in a dog's body will decide her potential to develop many diseases. In fact, just about every degenerative disease, including arthritis, kidney problems, bladder stones and heart disease, is associated with excess acidity in the

body. An acidic environment is one that is ripe for the establishment of cancer. So how do you change the body's pH? Food.

Your dog's internal pH depends on the food he eats. However, a food's pH when it sits on the counter is not the pH outcome in the body. In fact, a food's original pH can often be opposite within the body. A food's pH effect on the body is determined after it is ingested and digested.

For example, a lemon is acidic outside the body but will, when eaten and digested, make the body fluid more alkaline. Milk, an alkaline outside the body, will have the effect of making the body itself more acid.

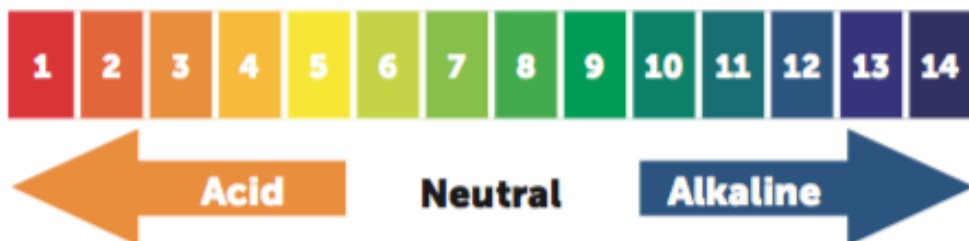
Predisposition to disease is directly related to the acid-alkaline state that surrounds the cells within each organ. Meats, poultry, and similar protein sources have the effect of making the body more acidic. When meat digests, molecules of sulfur and phosphorus are formed, making the intestinal tract acidic. Meat also contains nitrogen which, when digested, transforms into ammonia. Ammonia is also toxic to "our friends, the cells" and needs to be neutralized and excreted.

The body does have a way to manage these excess acids and toxins: stored bicarbonate. These bicarbonate stores are pulled into the intestine and work to neutralize the acidic environment inside the intestine. When these stores are released and lost into the bowels, the intracellular fluids—losing the bicarbonate stores—become acidic.

Three different organs are responsible for eliminating these extra acids and toxic molecules that build up in the body: the kidneys, lungs, and liver. Too much protein and particularly poor-quality protein puts a great stress on these organs. The liver is the most important organ of these three because it can process 40 times more of these toxins than the kidneys. The most important influence on the body's pH is diet. When the

Why is pH important?

The inner body of your dog—the functioning of cells and organs—is at its healthiest state with an alkaline (or *oxygen-rich*) pH. (Cells need oxygen for survival.) The body functions best at a slightly alkaline pH measuring approximately 7.4. This ideal "blood pH" measurement (7.4) means the body is slightly more alkaline than acidic. All the biological and chemical reactions in your dog's body are controlled by enzymes, which function best at an optimal pH—slightly alkaline. Different systems within the body work and **interact to keep the pH at that range.**



Alkalinizing Vegetables

Alfalfa	Fermented Veggies
Barley Grass	Garlic
Beet Greens	Green Beans
Beets	Green Peas
Broccoli	Kale
Cabbage	Kohlrabi
Carrot	Mustard Greens
Cauliflower	Parsnips (<i>high glycemic</i>)
Celery	Peas
Chard Greens	Pumpkin
Chlorella	Sea Veggies
Collard Greens	Spinach, green
Cucumber	Spirulina
Dandelions	Sweet Potatoes
Dulce	Wheat Grass

Alkalizing Fruits

Apple	Berries
Avocado	Pear
Banana (<i>high glycemic</i>)	Raspberries
Blackberries	Strawberries
Honeydew Melon	Watermelon

Acidifying Animal Protein

Bacon	Organ Meats	Sausage
Beef	Pike	Tuna
Cod	Pork	Turkey
Fish	Rabbit	Veal
Haddock	Salmon	Venison
Lamb	Sardines	

Alkalizing Minerals

Calcium: pH 12	Potassium: pH 14
Cesium: pH 14	Sodium: pH 14
Magnesium: pH 9	

Alkalizing Protein

Almonds	Tempeh (<i>fermented</i>)
Chestnuts	Tofu (<i>fermented</i>)
Millet	Whey Protein Powder

Alkalizing, Other

Cinnamon	Apple Cider Vinegar
Ginger	Molasses, blackstrap
Probiotic Cultures	Soured Dairy Products

3 Steps to Improve Your Dog's pH Now

1. Feed more alkaline-forming foods.
2. Feed fewer acid-forming foods.
3. Supplement with a good multivitamin/mineral that has the alkaline minerals calcium, magnesium, sodium, and potassium.*

* *Deserving Pets (deservingpets.com) offers a supplement containing alfalfa, beet, broccoli, carrot, dandelion, kale, and pumpkin, along with a healthy complement of completely balanced human-grade vitamins and minerals designed specifically to keep our dogs' bodies at their healthiest pH and help prevent diseases like cancer.*

diet is too high in foods that acidify the body, the liver and kidneys find it hard to handle the load. The body becomes acidic and open to many diseases. The cells are hampered by the acidic environment and cannot perform their tasks of maintenance, cleaning, and generating cellular ATP. Their batteries run low and toxins, including carcinogens, build up. DNA becomes altered and cancer and disease set in.

What about all-meat diets?

While I do not disagree with using raw meat and poultry as part of a complete diet for dogs, I am heartily opposed to a diet that is composed predominantly of raw meat and bones. This type of diet is high in acid-forming foods. A dog's diet *must* contain a *balance* of foods. These should include alkaline-promoting pumpkins, sweet potatoes, greens and other vegetables, even fruits.

We know that the wild dog and his wolf cousins eat raw meat as a large part of their diet. However, what

is often forgotten is that this is only a part of their diet. The stomach and intestines of an herbivore, when eaten by the carnivore, provide a delightful array of greens and grains that have been precooked just right for the carnivore's assimilation. Your dog chews on grass, because this is pretty much all that is available to him, while his wild cousins dine on a variety of greens and botanicals whenever they fancy a hit of chlorophyll.

We all know that our dogs' ancestors were wild dogs and wolves and because of this we assume that modern domesticated dogs are still primary carnivores, living mainly on flesh from their prey. However, we forget that domesticated dogs have adapted over time. In fact, today's dogs have human-type digestive enzymes specific for digesting and assimilating starch. Wolves don't. That's why I encourage adding a variety of alkaline-promoting foods to your dog's diet. I recommend a diet containing 30-50% alkaline-forming foods. 🐾

A licensed doctor of veterinary medicine with over thirty years in practice and member of the American Veterinary Medical Association, American Holistic Veterinary Medical Association, and International Veterinary Acupuncture Society, Dr. Deva Khalsa has studied homeopathy for nearly three decades. Dr. Khalsa uses her extensive knowledge and experience to encourage and empower owners in a holistic approach to pet care. In addition to publishing several books on animal care and health, Dr. Khalsa lectures internationally and contributes regularly to several animal-centered magazines. For more information, including online pet health videos, visit doctordeva.com.