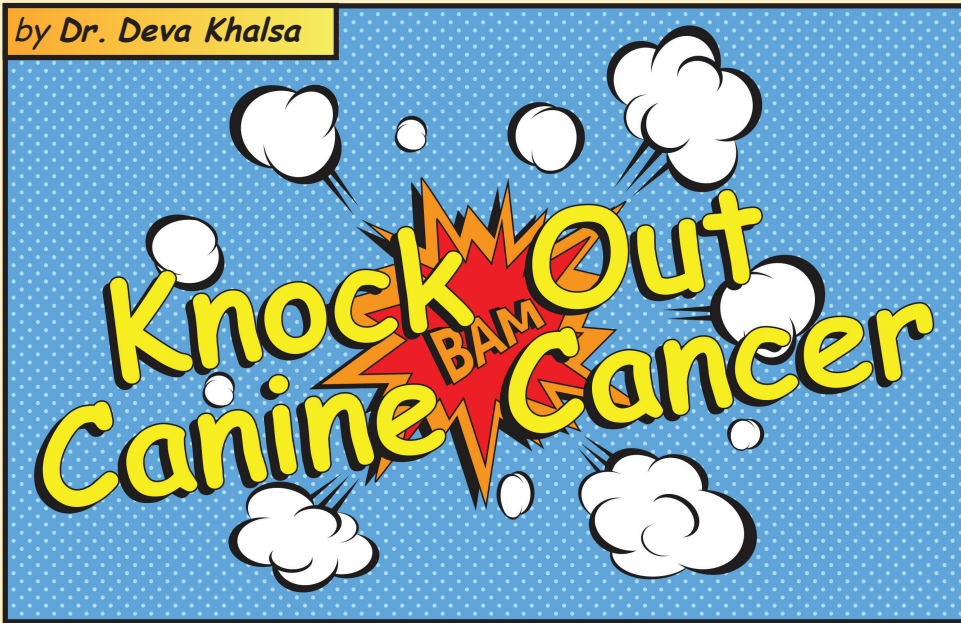


by Dr. Deva Khalsa



Cancer is the primary cause of death in dogs over two years of age in the United States. Often called the silent killer, most cancer grows invisibly, inside the body. Sadly, about one in two dogs will get cancer. That's incredibly significant. The majority of the time, a dog with cancer has routine blood tests that yield "normal" results. For dogs, there are no blood-test markers that monitor for specific types of cancer as there are for humans, but a healthy diet and quality supplements can deliver a one-two punch to knock out most canine cancer before it gets a foothold in the body.

### Knowing the Opponent

Carcinogens can cause cancer, a well-known fact. Yet most people don't realize that we expose ourselves and our pets to tens (if not hundreds) of thousands of carcinogens every day, from plastics we touch to fumes we inhale, even the slight radiation of our computer screens. In fact, quite a few manmade (synthetic) chemicals abundant on our planet are carcinogenic. Even many of the spot-on flea and tick products contain carcinogens that have been proven to cause cancer. Bladder cancer in Scotties has been linked to lawn herbicides and related products, and many common housecleaning products and fragrances contain carcinogens. But carcinogens vary in their capacity to cause cancer, and not all dogs that use top-spot products for fleas and ticks will get cancer.

A body's health is determined by its cellular health. The potential for cancer begins when carcinogens

Carcinogens are cancer-causing substances that can assault living tissue.

### Cell Biology 101

We can see our bodies, but what we can't see are the billions of cells that enable our bodies to exist. Cells are microscopic structures as varied as the parts of the body they make up: some cells are devoted to skin, some to muscles, some to blood, others to organs and organ functions. The list of cell "specializations" is enormous—almost like a giant mall with multiple stores, each with its own departments. The cells are the workers that make everything happen within the body. Healthy cells means a healthy body. But the cells need help to stay healthy.

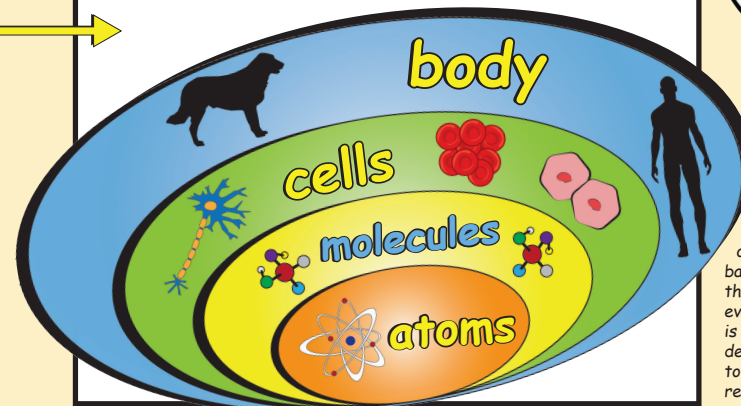
Inside each cell are atoms. Each atom houses a nucleus with protons (positively charged particles) and neutrons (neutrally charged particles), and the nucleus is surrounded by an electron cloud. Electrons (negatively charged particles) buzz around the atom's outer edge, within the cloud. Atoms share their buzzing electrons with other atoms to form pairs. (A pair of atoms is called a molecule.) For the atoms and molecules to stay healthy, their electrons must be paired correctly. Electrons determine how an atom (or a molecule) will "behave" chemically. If an atom misbehaves, the damage could snowball from atom to atom until the cell itself is damaged. If unhealthy body conditions are present, the damaged cell may replicate (or "duplicate") and begin a cycle of disease within the body.

damage and alter the DNA in a cell. Free radicals, unstable atoms, rob healthy atoms and, if left unchecked, set off a chain reaction of damage within a cell. Misbehaving free radicals can change the entire cell's chemical behavior by altering the cell's DNA. This damaged DNA sits and waits, like a seed on the ground waits for water, until cancer-promoting conditions are just right.

However, a healthy body can and will destroy many cancer cells as they emerge. When a rogue cancer cell starts to divide, your dog has a built-in mechanism to destroy the cell and force it to self-destruct: the tumor-suppressing gene p53. Gene p53 monitors each cell's biochemical signals (which indicate whether DNA mutation and division is in progress) and instructs mutating cells to either halt the growth cycle or self-destruct. Your dog's body is set up to nip cancer in the bud because, if gene p53 fails (and there can be genetic reasons for failure), the immune system will kick in and attempt to eliminate the new cancer growth.

By definition, any abnormal tissue growth or mass can be classified as a tumor. Not every tumor is malignant (cancerous). Some tumors are benign (noncancerous).

Remarkably, many of us have numerous potentially cancerous cells in our bodies right now, and these cells remain dormant until unhealthy conditions allow the cancerous cells to replicate. And every day more carcinogens batter our bodies and our pets' bodies. The battle is constant and unavoidable in this increasingly modern world; but even though avoiding every carcinogen is impossible, we can certainly work to decrease our pets' (and our) exposure to these toxins and build the body's resistance to this silent opponent.



During WWII, a majority of the military brass that walked into the atomic aftermath in Japan died of cancer within several years.

Plastics are high on the offenders list. When heated, plastic releases numerous carcinogens into food and water. One quick solution is cooking and storing food in glass containers.

While DNA mutations are what in the end will cause the cancer, there are numerous factors that contribute to the DNA alterations. Certain viruses, some vaccines, and even a few medical procedures (such as early spaying and neutering) can increase the risk of cancer by changing the body's chemical behavior. Lifestyle, mainly diet, determines whether the cellular environment will promote healthy cell replication or damaged cell replication.

Exposure to a carcinogen typically occurs many years before the cancer actually appears. Knowing where and how an opponent will strike gives us the advantage of defense. We can work now as owners (and consumers) to construct a cancer-preventing lifestyle for ourselves and our pets. Awareness begets action, and being mindful of each item—food, drink, medication—that enters the body is the perfect starting point to retraining a lifestyle, one small change at a time, to knock out cancer's foothold.

### Stepping into the Ring

Once cancer gets a hold, each type has its own special behavior. Some excrete substances that help them hide from the immune system, while others encapsulate themselves and become something akin to an individual life form. Some forms of cancer are very aggressive, while others grow slowly.

But, how does a healthy cell become a cancer cell? One cancer-promoting condition is an acidic intracellular environment—in other words, an acidic pH within the body. That's why it's important to feed your dog alkaline-promoting foods. An alkaline body pH stunts free radical damage, which prevents most cancer from forming or growing. Raw-meat and high-protein diets are all the rage now; however, most animal protein (while healthy for muscle health and muscle tissue recovery) acidifies the body during and after digestion. During meat digestion, molecules of sulfur and phosphorus form, making the intestinal tract acidic. Meat also contains nitrogen, which, when digested, transforms into ammonia—a toxic substance for cells that must be neutralized within the

body. All-meat diets or diets relying mostly on animal protein fail to provide the body with a counterbalance of alkaline-promoting materials: nutrient-dense fruits and vegetables.

Human cancer-preventing diets are low in animal fats for good reason. Saturated animal fats increase the risk of cancer. When these animal fats are heated and cooked, the risk becomes even higher.

In a dog's diet, saturated animal fats produce the same risk. Animal proteins, including dairy, should make up less than twenty percent of a dog's diet. (If you cook for your dog, keep the animal protein low, and if you feed a commercial dog food, don't add more animal proteins or dairy to a food that already has over twenty percent protein.) Feeding more vegetables and well-cooked grains or potatoes provides a healthier, cancer-fighting balance.

### Knock out canine cancer with these rock 'em, sock 'em foods.

- Almonds, ground (best nuts to fight cancer!)
- Sprouts of wheatgrass and alfalfa
- Egg whites, cooked
- White fish, chicken, and turkey
- Whole grains like barley, buckwheat, oats
- Brown rice
- Molasses
- Olive and walnut oils
- Apples
- Sweet potatoes
- Broccoli
- Cauliflower
- Garlic\*
- Herbs
- Kale
- Carrots
- Berries

\*Mentioned in ancient Egyptian medical texts, garlic is one of the oldest, most popular, and most versatile botanical medicines. Several compounds in garlic have inhibitory effects on the growth of certain cancer cells. Cooking and processing destroy certain compounds within garlic, so garlic works best when finely chopped and raw. After chopping the garlic, let it sit in the open air for ten minutes. This allows a specific chemical reaction to occur, releasing cancer-fighting compounds (such as allicin) that enhance the immune system, block carcinogens, and inhibit the formation of tumors.

Want to know more about how foods relate to the body's pH? Check out [everydogmagazine.com/pH](http://everydogmagazine.com/pH).

### Delivering the One-Two Punch

Remember, our bodies are bombarded with tens, sometimes hundreds, of thousands of free radicals every day. The free radical damage to cells, combined with the right (unhealthy) body conditions is how cancer thrives.

Creating a diet that promotes an alkaline body environment (for dogs and humans) arms the body with defense against scavenging free radicals. When starting a cancer-preventing diet, the earlier, the better. Free radicals can alter cells years before cancer strikes. Again, cancer is usually a slow, invisible process until it gains a foothold in the body.

When facing this invisible opponent, one method of defense is to "plant" your feet in the ring. Brightly colored fruits and vegetables—plant sources—aid the body in warding off attack. Leading cancer-prevention research proves that consumption of brightly colored fruits and vegetables decreases our cancer risk by thirty percent, and the same is true for our dogs. Unhealthy cells thrive on an unhealthy, unbalanced diet. Healthy cells require a healthy, balanced diet.

Vegetables contain a wealth of phytonutrients. Actually, most consumable plants contain generous amounts of both cancer-fighting antioxidants and phytonutrients. Cruciferous vegetables such as cabbage, kale, bok choy, turnips, rutabagas, mustard greens, and Brussels sprouts are notorious for their cancer-fighting power. Broccoli, especially, boosts the body's production of cancer-blocking enzymes.

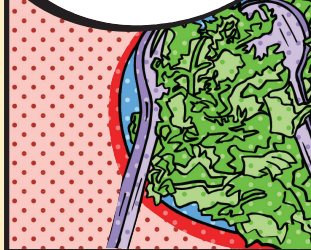
Carotenoids, which are fat-soluble pigments, make plants colorful. Leafy greens and orange and yellow vegetables (such as squash and sweet potatoes) contain beta-carotene and other phytonutrients. All of these vegetables can be fed raw or lightly steamed or grated. Organically grown vegetables give the best benefit because they are far richer in minerals and enzymes.

### What's so radical about free radicals?

Free radicals are atoms or groups of atoms (molecules) with unpaired electrons. When electrons remain unpaired, the atom or molecule becomes unstable—in other words, it misbehaves. Free radicals invade the body's cells, looking for other atoms or molecules to "steal" an electron from. When a free radical steals an electron from a healthy molecule, the healthy molecule becomes unstable and must in turn steal an electron from its healthy neighbors. This chain reaction creates a contagious, unstable environment within a cell. (Remember, cells break down into molecules, which are pairs of atoms.) The cell's health is only as stable as its atoms, and uncontrolled free radical damage to atoms changes the cell's health. If an unhealthy cell replicates, the damage is harder to contain.

Antioxidants—especially those found in vitamins A, C, and E—freely offer a stabilizing electron to free radicals. Antioxidants are stable even after losing an electron, which stops the chain reaction of free radical damage.

The first phytonutrient ever discovered was found in kale in the 1990s at Johns Hopkins School of Medicine. Researchers reported kale helps "dump" carcinogens out of cells almost ten times faster than the body's normal response. If the carcinogen is dumped quickly, it does not have time to alter the cellular DNA, thus preventing cancer's potential. The carotenoids in Kale, as with most plant sources, stabilize free radicals and prevent them from harming healthy cells. A recent study found that animals that consumed kale had smaller, slower-growing tumors than animals that did not consume kale.



### Knocking Out Cancer

A healthy diet is the first step toward cancer prevention, but it's impossible to get enough nutrients through diet alone. The body needs a quality multivitamin with high doses of vitamins A, C, and E, beta-carotene, and the mineral selenium to pack its greatest punch. Vitamins A, C, and E provide antioxidant support, which stabilizes free radicals within the cells. Studies have also shown that supplemental selenium reduces cancer death rates by as much as fifty percent. Taking selenium at 200 micrograms a day repairs the damage in the DNA molecule to ensure normal cellular function.

Another cancer-fighting supplement, vitamin D<sub>3</sub> (which is actually a hormone) is incredibly valuable for immune function, and many pets—as well as people—are grossly deficient in this vitamin.

After practicing veterinary medicine for over 30 years, I was fed up with the number of dogs getting cancer. Something had to be done. So I developed Canine Everyday Essentials for Deserving Pets to help prevent diseases such as cancer. All the ingredients are microencapsulated for maximum potency. Selenium, vitamins E, D<sub>3</sub> and C (in their natural form); along with kale, berries (which contain cancer-fighting ellagic acid), broccoli, dandelion, and other super foods create a full cancer-preventing complement. In addition, the supplement's probiotics maintain gut health and promote an alkaline pH.

Cells need all the tools necessary every day to scrub their insides clean and perform basic functions. The combination of vitamins, minerals, antioxidants,

Check your dog's thyroid as he gets older. Certain breeds are more prone to hypothyroidism, an underactive thyroid. The thyroid is the body's master gland and determines the efficiency at which the body is run. Our dogs need properly functioning immune systems in order to avoid cancer, and good thyroid function promotes healthy immune response.

phytonutrients, probiotics, and palm oil in Canine Everyday Essentials for Deserving Pets provides everything cells need every single day to fight and prevent cancer. Preventing cancer is (1) avoiding toxins and (2) augmenting and supplementing the diet with healthy foods and a quality vitamin supplement.

There is no single cure or treatment for cancer. Treatments are as varied as the types of cancer themselves. Some are trial and error, while some are mere luck. Others are based on detailed research about the cancer's cause. Oftentimes several methods used in combination prove more effective. The best choice for conventional or holistic treatment depends on the kind of cancer, how far the disease has progressed, and any previously received medical treatments.

Cancer takes a terrifying toll on both young and old dogs. Most cancer, once it's found, is difficult to stop. Presently, the fatality rate of canine cancer averages over 1 in 3 dogs. The statistics for canine cancer only increase over time. Thankfully, we have the understanding of how cancer strikes and the basic knowledge of how to prevent its foothold in the body. Cancer is an illness for which the proverbial ounce of prevention is definitely worth that pound of cure. 🐾

### Egg White Scramble

- 4 egg whites (scrambled in olive oil)
- 1/3 cup of shredded, lightly steamed kale
- 2 baked sweet potatoes (cooled)
- 1 small clove of garlic, finely chopped and mixed in with potatoes (at the very end of preparation)

Mix all ingredients together, add garlic at the end, and serve.

### Chicken-Carrot-Buckwheat Stew

- 3 carrots (steamed)
- 1 cup of shredded chicken (raw or cooked)
- 1/2 cup of buckwheat (cooked in 1 cup of water for 35 minutes)
- 2 teaspoons of molasses

Mix together and serve.

**Kick-start** your dog's cancer-preventing lifestyle with a day's worth of **cancer-kicking** meals.

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](http://doctordeva.com).