

Integrative and Holistic Medicine: What is it, and what's in it for my Berner?

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The terms *alternative, complementary, and integrative medicine* are different names for the same idea. Medicine as taught to most doctors and vets in professional school is referred to as conventional medicine. Alternative, complementary and integrative medicine refer to therapies and methods that expand the scope of conventional medicine. Some of these therapies have been used for a long time, such as nutrition, acupuncture, massage, homeopathy and herbal medicine. Other therapies are less well known or more recently developed. The term integrative medicine best portrays the spirit of cooperation and inclusiveness, describing how vets can integrate different modalities or treatment methods.

Holistic medicine is an approach to the patient, not a treatment method. Holistic means that, regardless of what therapy is used for treatment, the goal is to improve the health of the whole individual. Contrast this with a mechanistic approach to medicine, which treats physical symptoms alone. Holistic medicine selects the therapies best suited to a particular individual, assessing the physical symptoms and history, the mental and emotional state, the physical and social environment, and the needs and desires of the caregiver. Many medical practitioners strive to practice holistically within a conventional framework. An integrative approach gives us more options to help patients, and fewer problems with reactions to medications. In an holistic approach, maximization of health is recognized as the best protection from disease. Let's briefly discuss some of the therapies that we can use to expand beyond conventional therapeutics.

To find a holistic vet near you, check the website of the American Association of Holistic Veterinary Medicine: <https://www.ahvma.org/>

Nutrition is a vital, and controllable, factor in attaining and maintaining good health. Humans are urged to eat foods with minimal processing, and our Berners will benefit from the highest quality, least processed diet that we can manage. As processing degrades food, fresh or fresh-frozen is best, followed by freeze-dried, then canned, then baked, with kibble last. Kibble is extruded and the extrusion process damages nutrient quality. It was developed strictly for shelf stability, and can be useful for cereals and pasta. Kibble is not recommended for dogs like Berners with a tendency to cancer and bloat. Kibble diets are correlated with increased bloat incidence because the heavy kibble meals cause stretching of the gastric ligament. Cancer requires sugar for energy, and starch (all kibble must be 40% starch) is rapidly metabolized to sugars, unlike protein and fat. Dietary supplements can be chosen for the needs of specific patients and their health concerns.

Homeopathy is a system of medicine developed by the German physician S. J. Hahnemann over two hundred years ago, and is used extensively in many countries. Homeopathic medicines are safe, effective, and low in cost. They work with the body's natural defences to restore health, rather than just fight disease. Homeopathy has been particularly useful in situations where conventional medicine has undesirable side effects, such as anxiety, behaviour problems, chronic diseases and skin conditions. Homeopathy can be used by pet guardians on a first aid or acute care basis. Treatment of chronic problems will generally require the assistance of a trained veterinary homeopath, found on the website of the Academy of Veterinary Homeopathy: <https://theavh.org/>

Herbal medicine is not the same as homeopathy, though it is easy to see how the two are confused. In homeopathy, herbs and other substances are highly diluted and potentised to make remedies. Herbal medicine uses the herbs as whole plant parts, or as powdered or liquid extracts. Some conventional medicines synthetically reproduce the active ingredients in herbs, but herbal

medicine practitioners find that the use of the whole natural plant product is often more effective and gentler in action. Many herbs are very safe, but attention must be paid to the dosage. They also can interfere with the action of other medicines in some cases. Find a vet trained in herbal medicine at the AHVMA site or: <https://www.vbma.org/>

Acupuncture is a branch of Traditional Chinese Medicine (TCVM) which is more than 4,000 years old. Acupuncture uses an understanding of the body's normal characteristics and the energy flow of the body to determine how to stimulate healing, relieve pain or resolve body imbalances by placement and manipulation of acupuncture needles. It generally takes several weekly or every other week sessions to see significant improvement in a patient. Chinese herbal combinations may help maintain and augment the improvement seen from acupuncture. Acupuncture is best known for its relief of musculoskeletal pain, and it can be helpful in many other conditions. Vets with training in acupuncture and TCVM are listed on the AHVMA site or: <https://www.ivas.org/> and <http://www.tcvm.com/>

Physical manipulation modalities include **chiropractic**, **osteopathic** and **massage**. These modalities act to manipulate injured muscles or misaligned joints to speed healing of injuries. They can also help with intestinal, respiratory, and behavioural problems when such problems are related to pain or poor body mechanics. Vets with training in specific modalities are listed on the AHVMA site. There are also veterinary specialists in rehabilitation who can tailor a recovery program for animals: <http://www.rehabvets.org/>

Therapeutic touch modalities are accessible to animal guardians, and can help relieve pain as well as improve emotional balance. Reiki, TTouch, and Healing Touch are safe and helpful. Acupressure can be used as an adjunct to both acupuncture and massage.

Emotional imbalances can also be addressed with **Flower Essences**. There are many different essences, and the Bach Essences were developed for people to use on themselves, so they lend themselves for home use with our animals as well.

Energy input can also speed healing, and some of these therapies are easily and safely used by pet guardians. Vets have cold laser for deep treatment. At home, guardians can help stimulate healing with Assisi Loop technology or Red / Infrared Light Therapy Pads.

Other ancillary therapies include increasing tissue oxygenation with ozone therapy or hyperbaric oxygen. This can help with many chronic inflammatory states, including cancer.

As you can see, there are many options available. An holistic practitioner is likely to have expertise in a few of them, along with a strong grounding in conventional medicine. Your ideal practitioner will work with you to determine what modalities are best for your individual, and will be aware of referral options if indicated.

An excellent integrative dog and cat health book is Dr. Lise Hansen's recently published book for animal guardians, "The Complete Book of Cat and Dog Health". This is one book that I can recommend whole heartedly, as Lise, a Danish / UK practicing vet, addresses health issues from the standpoint of what is best for each individual, embracing conventional and complementary modalities.

Integrative Medicine Used Holistically – Orthopedics, Cancer, and Gastric Dilatation Volvulus

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Let's look at how we can use integrative medicine in a holistic manner to help Berners affected with some common conditions: joint issues, cancer, and GDV. A holistic approach requires us to look at the whole patient and understand, as well as we can, why this problem is affecting this individual. As part of this approach, we explore how to maximize basic health. Is the diet appropriate for the individual? Are feeding bowls metal, ceramic, or glass? Are foods kept in clean, food safe containers? What supplements and treats are given? Is the environment stimulating without being overly stressful? Does the dog get adequate work and play time? Are the flea and tick treatments potentially linked to allergy or toxicity problems? Is the vaccination schedule rational for the dog and their level of exposure? Are titers used to minimize excessive immune stimulation? Are blood and urine tests indicating early signs of any problems? This is a baseline checklist to understand the animal's situation.

MOBILITY

What mobility problems are common in Berners, and how can an integrative approach help? We can group many orthopedic problems into three categories: developmental, traumatic, and aging changes.

DEVELOPMENTAL ORTHOPEDIC PROBLEMS

Developmental problems include hip dysplasia [HD], elbow dysplasia [ED], osteochondritis dissecans [OCD = mostly affects the shoulder], hypertrophic osteodystrophy [HOD] and panosteitis.

The incidence of HD, ED, and OCD can be decreased by careful breeding practices, and screening of potential breeding stock. HD, ED, and OCD are multifactorial problems, and increase in incidence with joint trauma and excessive weight gain between the ages of 3 to 8 months.

HOD incidence is increased by excessive intake of calcium, leading to bony deposits and inflammation.

Panosteitis is believed to occur when pups consume excessive protein and calories, resulting in swelling within the bone.

Appropriate nutrition is the most significant factor in developmental orthopedic disease that guardians can control. These skeletal developmental disorders affect 22% of dogs less than 1 year old, and 90% of cases are affected by nutrition. The incidence is even higher in large and giant breeds. Unfortunately, many puppies are overfed, and many vets do not recognize a fat puppy. Puppies' ribs should feel like they are wearing a thin t-shirt, not a sweatshirt! All susceptible dogs (which includes all Berners) should be kept lean with a BCS of less than or equal to 5/9.

A balanced diet should never be supplemented with additional calcium. Feed growing pups a diet with moderate calcium, a calcium to phosphorus ratio of 1.2 : 1, moderate calories, and moderately high protein.

Environmental effects have a significant role as well. People fail to realize that their moose of a puppy is still a growing baby, with open growth plates. Pups with open growth plates should not jump from a height, such as a couch or vehicle tailgate. This may not be recognized as trauma,

as the pup may not cry or become lame right away, yet the repeated concussions are damaging the growth plates and the developing cartilage.

Sex hormones play an important role in normal bone and joint growth and development. Pups should not be neutered until their growth plates have closed, which can be as late as 24 months in Berners. Neutering before puberty delays the closure of the growth plates, resulting in inappropriate angulation of the joints and abnormal stress on joints. Golden Retriever pups neutered before puberty have a 17% increase in HD, and a 200 - 300% increase in cruciate ligament rupture. Consider vasectomy and ovary sparing spay to sterilize puppies. This retains the beneficial effects of the sex hormones lifelong.

What if your puppy develops one of these developmental problems? What can a holistic approach offer that conventional medicine alone may not?

As an example, panosteitis is a disease that responds poorly to conventional treatment. An integrative practitioner may administer appropriate Chinese herbal medicines, or acupuncture to relieve pain. In my practice, acupuncture and homeopathic Eupatorium-perf (not the herb!) quickly resolve the signs of the disease, without the need for conventional analgesics. Homeopathic Eup-perf is specifically helpful for pain *within* the bone, such as is seen with pano, bone cancer, or after surgical repair of bones. Dosing is discussed below, under treatment.

The discomfort of HD, ED, OCD, and HOD can also be managed with acupuncture, physical manipulation, and herbal and homeopathic medicine. Let's look at those treatments in depth after our discussion of the cause and prevention of traumatic and geriatric mobility problems. These cause discomfort within the joint, similar to those problems.

TRAUMATIC ORTHOPEDIC PROBLEMS

The most common traumatic joint injury in Berners is cranial cruciate ligament rupture [CCLR]. We used to think that CCLR was strictly a traumatic disease related to injury and compounded by obesity. [On a personal note, CCLR ended the career of my slim Utility Newf, with no history of injury, though she was spayed before puberty.] We now know that removal of normal gonadal hormones before puberty causes abnormal stifle angulation, leading to a far greater risk of CCLR.

Other CCLR risk factors include conformational abnormalities such as straight stifles, bowlegs, or knock knees, factors that will be minimized with proper breeding and puppy rearing.

There is an immune component to some CCLR, as immune complexes have been found in synovial fluid, leading to supposition that excessive exposure to immune stimuli (excessive vaccination, toxin exposure) may be involved.

Inactivity, even in slim dogs, is a problem, as the stress of activity benefits tendon strength and structure.

Trauma may certainly precipitate CCLR, so the wise guardian will keep their Berner fit, lean, and provide good footing for their athletic activities and in the house.

AGING PROBLEMS

Common aging changes affecting mobility are osteoarthritis [OA], intervertebral disc disease [IVDD], and conscious proprioceptive [CP] deficits. Degenerative myelopathy (DM) can resemble age related CP deficits, IVDD, or OA in its early stages.

- *Osteoarthritis* is the development of bony deposits around joints in any part of the body, leading to inflammation and pain. This most commonly occurs in Berners in the knees (stifles), hips and in the lumbosacral area (back, in the loins). It can also occur in the elbows, especially if there is preexisting elbow dysplasia.

- *Intervertebral disc disease* is degeneration of the discs between the vertebral bodies of the spine. This leads to arthritis as the discs collapse or harden, and can cause weakness or paralysis. IVDD can occur in Berners, though other mobility concerns are much more common. The breeds predisposed to IVDD are the chondrodystrophic breeds with long backs and short legs (Corgis, Dachshunds, etc) because that mutation leads to premature disc aging.
- *Conscious proprioceptive deficits* result in a decreased ability of the dog to know if their foot is the right way up. Affected dogs may stumble if they catch their toes underneath, or they may scrape their toes when they walk. This occurs earliest in the hind feet. It occurs as dogs age, either due to arthritis impinging on the nerves or aging of the tiny proprioceptive fibers in the nerves. Signs are more noticeable in large dogs, as it is easier to hear if a big dog is scraping their toes.

Maintain good muscle tone and optimal body weight to decrease the severity of all of these diseases. Good conformation helps prevent the development of arthritis, as proper angulation minimizes joint stress. Falls in dogs with mobility problems can worsen the underlying problem, so excellent traction in the home is important lifelong to prevent ‘wipe-outs’ when dogs move at any speed. Some products can be applied to the pads of the feet to help improve traction; Paw Friction is one example.

TREATMENT

Let’s look at some integrative treatments that can help when your Berner friend has these mobility problems. For more information about the modalities mentioned, please consult the “Integrative and Holistic Medicine” introduction.

Nutrition

Diet - Provide a diet that is minimally processed to maximize its nutritional value and minimize free radicals present in the food. Fresh, cooked, freeze-dried / dehydrated, or canned are all good options. The extrusion process of kibbling increases pro-inflammatory components in the food.

Supplements can be used to help prevent and treat orthopedic problems. There is conflicting evidence over the benefit of many dietary supplements. Some that are generally considered safe, with evidence of efficacy in many dogs are:

- Glycosaminoglycans: (10 mg/lb of each chondroitin and glucosamine) – protect cartilage, anti-inflammatory
- MSM: (5-10 mg/lb) – anti-inflammatory
- Sam-E: (10 mg/lb) – protect cartilage, anti-inflammatory
- Bromelain: (proportionate to human dose) – anti-inflammatory, may degrade immune complexes
- Herbs: Many herbal products are available, both Chinese and Western. It is best to use herbs with veterinary guidance to prevent interaction with other medicines and ensure appropriate dosing.
- CBD: Many Berner families report improved comfort levels with CBD products. It is wise to choose products that are organically grown, with a certificate of independent lab analysis of the active components. Remember that THC is toxic to dogs, so choose products that are THC free. There are several books available detailing which CBD components are particularly helpful for pain, and discussing dosing and CBD choice:
 - Dr. Caroline Coile: “Cannabis and CBD Science for Dogs”
 - Dr. Ron Silver: “Medical Marijuana and Your Pet”

Physical Manipulations

- *Massage* - Many guardians can learn to do *massage* to help their Berners. Simple massage of tight muscles can be helpful to ease discomfort of muscle spasms.
- *Physical therapy* from a rehab specialist will focus on stretches and strengthening exercises - many can be done at home - to improve function. If surgery is necessary, a physical therapist can guide you in how to bring your friend back to optimal mobility as smoothly as possible.
Older dogs with proprioceptive problems benefit from balance pod work. This can help slow the progress of the disease by recruiting different nerve pathways.
- *Chiropractic* care will reduce subluxations, or malpositioning of the bones. Just like us, dogs will get in bad habits of using their bodies improperly because of pain, and they may need help from a chiropractor to restore optimal alignment.

Chinese medicine

- *Acupressure* - Those with an interest in Chinese medicine and Acupressure will enjoy Dr. Cheryl Schwartz's excellent "Four Paws Five Directions". Dr. Schwartz discusses Chinese medicine on an accessible level, and provides photos showing the points on a real (albeit not hairy) dog. It is easy to apply this to helping relieve your loved one's discomfort.
- *Acupuncture* – Acupuncture acts more deeply and lasts longer than acupressure, so consult a veterinary acupuncturist for chronic or severe problems. The acupuncturist will be able to help you choose acupressure points as well.

Homeopathy

- Patients with chronic problems can be dramatically helped with homeopathy. Optimally, consultation with a homeopath will determine what constitutional remedy is best for each dog's overall health. This will take into account the totality of their symptoms, not just the signs relating to their joint problems.
- There are symptomatic treatments helpful for certain combinations of symptoms. When using homeopathic medicines symptomatically, use a low potency, such as a 6X, 6C, or 12 X. [Homeopathic medicines should be kept clean, dark, and away from sources of electromagnetic (EM) radiation, like light, computers / phones, or microwaves.] Put a pill or a few granules onto a teaspoon, and add a few drops of non-chlorinated water, then let the dog lick it off the spoon or tip it in their mouth or other mucus membrane. Do not touch the medicines with your hands, as your own EM field will decrease their potency. Give the medicine one to three times daily for up to five days in a row. If the medicine is helping, give it less frequently, only as needed.

A few medicines and appropriate symptomatic uses follow:

- Arnica (Arn) – bruises, sprains, pre- and post-op to decrease pain and speed healing
- Causticum (Caust) – gradually developing weakness / proprioceptive loss in the hind end
- Eupatorium perfoliatum (Eup-perf) – bone pain from panostitis, bone tumors, fractures
- Hypericum - injuries to nerve rich areas such as spine, toes, tail
- Rhus toxicodendron (Rhus-tox) – joint and back stiffness that improves with continued motion, worse after rest following exertion
- Ruta graveolens (Ruta) – ligament / tendon stiffness or injury that does not improve with motion
- Symphytum – speeds healing and relieves pain of fractures

There are many more possible medicines and considerably more information for these medicines. Those with an interest in learning more should consider Lockie's "The Family Guide to Homeopathy". This is written on an accessible level for human use, and most is directly referable to animals.

Adjunct methods

- *Laser* – Many vets now have cold laser, which acts similarly to acupuncture in stimulating healing and relieving pain.
- *Light Therapy or Assisi Loop* – These are energy input therapies which can be provided at home by the animal guardian. There is a big advantage to having a helpful physical modality available for use as needed to relieve discomfort and speed healing.
- *Reiki, TTouch, Healing Touch* – Many guardians can learn to use these hands on energy and therapeutic touch methods with their own Berners. These provide benefit to general body areas; help calm the patient and relieve discomfort.
- *Bach essences, flower essences* – We know there is a big emotional component to pain and stress. Flower essences can gently relieve and balance our Berners' emotional upset, as well as our own. *Essential oils* Fresh, appropriately formulated essential oil products can help stimulate healing, repel pests, and enhance well being. The essential oil supplier I trust is AnimalEO.

CANCER

Cancer is justifiably one of the major concerns of Bernese Mountain Dog lovers. Our beloved dogs all too often succumb to cancer. How can an integrative holistic approach prevent and treat cancer?

Cancer occurs when cells multiply without normal control, and the body fails to recognize and remove the abnormal cells. Therefore, anything which causes cells to change and lose their normal control mechanism (carcinogens or mutagens), AND anything which suppresses the immune system so that it is less able to recognize and remove cancer cells increases the risk of cancer. Mutated cancer cells occur daily in the body, and the body usually eliminates them speedily.

RISK FACTORS

Breed

Certain dog breeds have an increased risk of cancer. Numerous national studies and registries rank proportional mortality due to cancer in various breeds.

- UK: Irish Water Spaniel, Flat-coated Retriever, Wirehaired Vizsla, Bernese Mountain Dog, Rottweiler, Italian Spinone, Leonberger, Staffordshire Bull Terrier, Welsh Terrier, Giant Schnauzer
- Sweden: Bernese Mountain Dog, Irish Wolfhound, Flat-Coated Retriever, Boxer, St. Bernard, Leonberger
- Denmark: Bernese Mountain Dog, Flat-coated Retriever, Golden Retriever, Rottweiler
- Switzerland: Boxer, Cocker Spaniel, Poodle, all Swiss Mountain Dogs, Dachshunds, Setters (includes Irish, Red and White, Gordon, etc.), Schnauzers, Retrievers (includes Lab, Golden, Flat-Coated, etc.)

I'm sure it doesn't surprise us to see our Berners in every list. As there is a genetic predisposition to cancer in our breed, we will want to be particularly vigilant in providing a lifestyle that minimizes cancer risk.

Environmental / Pharmacological

Some risk factors have been identified in dogs; many more are known in people:

- *Tobacco smoke is associated with increased cancer of the nasal cavity, sinuses, and lungs. There is less effect in very long nosed dogs, possibly due to the increased filtering area.
- *Topical insecticides are associated with increased bladder cancer in dogs.
- *Exposure to herbicides, such as in agricultural chemicals or lawn and garden products, is associated with increased incidence of lymphoma.
- *Vaccine adjuvants and components are implicated in the development of some skin cancers.
- *Dental inflammation from plaque and gingivitis is associated with increased incidence of mouth tumors.

It is certainly possible that human risk factors could also apply to animals, particularly breeds with a predisposition to cancer.

I counsel all of my clients to check the Material Safety Data Sheets (MSDS) for any chemicals introduced into the environment or on to the patient, to see if they are known carcinogens. Similarly, the package insert of drugs lists side effects. Those side effects can include cancer, particularly for immune blocking / allergy drugs.

Neutering

- Neutering decreases the risk of cancers associated with the gonads and breasts. Gonad cancer is rare, and in the case of males, almost always easy to observe. Breast tumors affect about 14% of intact bitches; half of breast tumors in dogs are cancerous. Neutering increases the risk of many more cancers.
- Osteosarcoma (OSA) is twice as prevalent in neutered dogs overall. A study of Rottweilers (prone to OSA) indicated that neutering at less than one year of age increased OSA incidence to 3-4x that of intact dogs
- Prostate cancer is four times as frequent in neutered males than intact. Intact older males get more benign prostatic hypertrophy and prostatitis.
- Mast cell tumors and lymphoma are more frequent in both neutered males and females.
- Hemangiosarcoma is increased in neutered females; between 4 -7% in one study, depending on the age of neutering.
- Bladder cancer is increased in neutered dogs.

The increased risk of cancer in neutered dogs may be related to the long-term effects of blood levels of luteinizing hormone (LH) over 30 times normal, following neutering (gonadectomy). LH increases dramatically after gonadectomy because of the loss of feedback inhibition from the sex steroids. This constant stimulation causes an increase in the number of LH receptors, in tissues throughout the body, increasing their effect. LH binding to cell receptors stimulates cell division and nitric oxide release. Excessive and uncontrolled cell division is a characteristic of cancer. Nitric oxide is an important regulatory molecule between cells, affecting both normal physiologic processes and pathologic concerns.

PREVENTION

Genetics

Many genetic factors contribute to disease and cancer susceptibility. There are no Berners who are completely free of a family history of cancer. It would be ideal to breed dogs with long lived parents and other relatives. The Antagene Histiocytic Sarcoma pre-test for matings can be a useful tool in determining which pairings are less likely to produce susceptible offspring to this one common Berner cancer. At the end of the day, there are no guarantees. In our lovely Berner – or any dog – we know that cancer is a risk, so what else can we do to prevent it?

Environment

We should, as much as possible, avoid carcinogens and mutagens in our environment. One simple way is to stop using any lawn chemicals – chemical pesticides or herbicides. Even when such chemicals are used as directed, there is run off to which our animals are exposed. There are safer alternatives which do not damage our environment and put us and our animals at risk.

Consider less toxic methods of external parasite control. My own dogs are treated with only Wondercide (cedar oil) products for parasites; there are other good, safe herbal products. As these safer herbal products depend to some extent on the individual's body chemistry, you may need to try different products to find one that suits your pup. These topical products are more time consuming to apply than a monthly spot on or every 3 month pill. Read the side effects and the MSDS for the products you are currently using, and decide if you are satisfied with that level of risk.

Vaccination

Only healthy animals should be vaccinated, according to the package insert. A dog with cancer is by definition, not healthy. Most states will allow Rabies waivers (the only vaccine with a legal requirement) for dogs with cancer.

Animals should only be vaccinated to protect them from diseases which pose a significant risk to them, and the vaccine should be highly effective and safe. This means it should be a dangerous disease (such as Rabies), to which they are likely to be exposed (because of their lifestyle), and the vaccine should create a good immune response without a large number of potential side effects.

You can obtain a specific vaccine package insert and review the possible side effects.

You can review the 2017 AAHA Canine Vaccination Guidelines here:

<https://www.aaha.org/aaha-guidelines/vaccination-canine-configuration/vaccination-canine/>

We should carefully select which vaccines we want to give our dogs, and when. We want the immune system to focus its resources on finding and removing cancer cells, not producing excessive antibodies.

- Rabies is required by law at varying intervals in most parts of the US; my discussion does not apply to Rabies.
- Research indicates that most dogs, after the initial series of Distemper and Parvo vaccines, are immune to these diseases lifelong. In practice, I draw titers on my patients to see if they are producing antibodies to Distemper and Parvo. If they are, it would be counterproductive, and over stimulating to the immune system, to repeat the vaccination.

I do not vaccinate my own dogs for Leptospirosis or Lyme. These diseases can be prevented by preventing access to the organism that causes the disease. In addition, vaccines produced to non-viruses, like Lepto and Lyme, are less effective, and more likely to cause adverse reactions, than vaccines produced to viruses. The newer subunit vaccines appear to cause fewer adverse reactions.

- *Leptospirosis* is transmitted by drinking water contaminated with the organism, or entry of the organism through wounds or eyes. Lepto is found in stagnant fresh water that is contaminated with urine from infected animals, usually rats or raccoons. Lepto can cause serious kidney disease. It may be transmitted from infected dogs to people, so environmental vigilance is especially important.
- *Lyme* is transmitted through the bites of infected ticks. Tick prevention is a far better way to prevent this disease, as tick control also prevents other tick borne diseases. Lyme infection rarely causes illness in dogs, unlike in people. People can only be infected with Lyme disease by the bite of a tick, not directly from their dog.
- *Respiratory diseases caused by Bordetella, Parainfluenza, and Canine Flu (H3N8 and H3N2)* are transmitted in situations where dogs come into close contact with each other, like grooming facilities, dog shows, and dog parks. In a healthy dog, these diseases are a similar to a human cold, and respond well to both holistic and conventional treatment. If you must get these vaccines, opt for the intranasal when available, as that stimulates local immunity which is more effective in preventing these diseases.

Neutering/Sterilization

We do not want dogs to breed indiscriminately, and many breeders require sterilization to prevent 'oops' litters. Population control is an excellent reason to sterilize dogs! Gonad sparing sterilization – vasectomy or ovary sparing spay (OSS) - can be done at any age to preserve sex hormones and minimize cancer risk. The pups will grow, develop, and behave just like intact pups. The females will not bleed during their heat as long as the entire cervix is removed. This also eliminates the risk of pyometra. There is more information, including an OSS video, on the Parsemus Foundation site: <https://www.parsemus.org/projects/ovary-sparing-spay/> or through the FB group Ovary Sparing Spay and Vasectomy. As discussed, gonad and mammary tumors are more likely in intact than in neutered animals, so this is a factor to weigh. Please read the Parsemus Foundation article, or my "Sterilization Options for Dogs" paper, also available at Berner U. Both have reference links if you want to examine the actual research.

Diet

Consider the human nutritionists' recommendations for people for a healthy diet: fresh foods as the basis, avoiding processed foods and sugars. Many dogs eat highly processed diets their entire life. Certainly kibble is convenient, and appears to be economical. I have treated so many patients whose health problems improve as soon as we stop feeding kibble. It doesn't matter how high quality kibble is, extrusion is one of the most damaging processing methods, as discussed in my 'Integrative and Holistic Medicine' paper. For your pet's health, try to feed a high quality raw, cooked, canned, or freeze-dried / dehydrated diet. If you truly must feed kibble, supplement with fresh foods.

TREATMENT

All of the above considerations under Prevention apply, and are even more important to minimize the effects of cancer on your furry friend. You should educate yourself as much as possible about your dog's particular cancer, and determine your support team. You may want only conventional treatment with an oncologist, you may only want to work with an integrative vet. It is your choice how you approach it; there is no one right answer. Conventional oncology and integrative treatments can help in harmony; there are even some integrative veterinary oncologists, like Dr. Kendra Pope in NJ, making it easier to combine the best of both approaches.

Diet

Commercial cancer diets, such as commercial n/d, are formulated to provide low carbohydrate (starch), moderate to high fat levels, and moderate protein levels. These parameters are important, as cancer must use sugars for energy, and minimizing carbohydrate intake minimizes sugar. It also underscores the need to avoid kibble, as every kibble must be 40% starch to go through the extrusion process! Cachexia, or weight loss associated with cancer, is due to the loss of fat and lean body mass. Protein levels should be maintained to minimize lean tissue loss, and fat should provide a significant proportion of diet energy.

You do not need to buy a special cancer diet, as there are cooked, canned, and freeze-dried / dehydrated diets that, with some supplementation, meet the criteria of low carbs, moderate to high fat levels, and moderate protein levels. I have some clients who want to provide a home prepared diet, and your holistic vet can certainly help you with this. Dogs with cancer that are currently eating raw can continue to do so, though some do seem to prefer the food cooked when they are feeling poorly.

Supplements

Dietary supplements will vary according to the kind of cancer and condition of the patient, and must be tailored to the individual. Most cancer patients receive antioxidants, flavones, flavonoids, bromelain, curcumin, and fish oil. If you choose to provide conventional chemotherapy, surgery or radiation therapy, some of these supplements may need to be temporarily discontinued.

Homeopathy

Every cancer patient and every cancer is different. As discussed in the 'Integrative and Holistic Medicine' paper, homeopathic medicine chooses medicine individualized for the patient, to stimulate healing. This can be highly effective, even for cancer cases, provided that there is a thorough case assessment by a skilled homeopathic practitioner. Homeopathy can also be used as an adjunct to conventional cancer treatment, decreasing the side effects of conventional treatment with surgery, chemotherapy or radiation therapy. Homeopathy is used extensively in this way in Europe and India.

Acupuncture

Acupuncture increases blood flow in nearby areas, so needles should not be placed right next to cancerous tumors. Acupuncture provides relief from symptoms, and strengthens the immune system, both of which are helpful for cancer patients.

Herbal medicine

Many herbal medicines can be useful in cancer patients. A fair number of current conventional medical treatments were first 'discovered' as the most powerful ingredients of herbal treatments! Herbal practitioners use herbs as the whole part, not as a particular component, to decrease toxicity and to provide additional benefit from the minor components.

Other therapies

Many other therapies, like massage, therapeutic touch, and energy work will improve well being in the cancer patient. Certain newer, deep acting treatments, like ozone, hyperbaric oxygen, and Sana Wave are becoming recognized as effective in the treatment of cancer. It is good to be open minded about different possibilities. There is so much more available now then there was just a few years ago. Always bear in mind that the goal of treatment is not prolonged life, it is high quality of life for as long as possible. We have the wonderful and daunting responsibility to do our best for each of our individual, beloved friends. We must stay attuned to their needs, and determine what treatment is in their best interests.

GASTRIC (Stomach) DILATATION (Bloat) and VOLVULUS (Torsion/Twisting)

The occurrence of gastric dilatation, with or without volvulus, is a medical emergency, and the dog should be rushed to the emergency hospital straight away. While you are driving to the hospital, someone can give homeopathic Colocynthis to relieve some of the pain. Acupuncture can also help with pain. The successful resolution of volvulus requires surgical correction and a preventative gastropexy. These treatments were discussed well in Fall 2019 Alpenhorn.

HOLISTIC APPROACH TO GDV

How does GDV occur, what are the risk factors involved in its occurrence, and what can we do to prevent it?

Etiopathogenesis

Twenty-five percent of cases are gastric dilatation alone. The distension with gas causes compression of the ends of the stomach, preventing escape of gas. Seventy-five percent of cases are gastric dilatation with volvulus or torsion (twisting) of the stomach. When the gastric ligament suspending the stomach is stretched, this will allow rotation of the stomach. This rotation twists the stomach and the blood vessels leading to it, preventing escape of gas, compromising the blood circulation, and resulting in toxins entering the system from tissue damage, leading to shock.

RISK FACTORS UNRELATED TO EATING

What is the dog's genetic makeup?

Genetics is a big factor. If a dog has a first degree relative with a history of spontaneous GDV (not traumatic), this increases risk by 63%.

Although any breed can develop GDV, large and giant breeds are overrepresented, because a deep, narrow chest increases the space available for the stomach to rotate.

The condition is most common in Great Danes, approximately 35 – 40% of all Danes will bloat. Other breeds with a higher than average incidence are Irish Wolfhound, Bloodhound, Irish Setter, Akita, Standard Poodle, and Boxer.

In Danes, genetic variants have been identified that are associated with an increased risk of GDV. Dogs with these genetic variants also have a different intestinal microbiome in both asymptomatic and GDV affected individuals than is found in normal dogs.

Considerable research has indicated that a healthy microbiome is essential to optimal function of the immune system, as 75-80% of the immune system is in the intestinal tract. GDV incidence may be related to immune function, microbiome balance, or both.

What is the dog's stress level, temperament, and physical condition?

- Stressful life events, and a nervous or fearful temperament are associated with increased GDV risk. Male dogs are slightly more likely to develop GDV, possibly because they also tend to be larger and have a deeper chest than females. Anecdotally, breeders have noted that males may develop GDV when they are housed with, and unable to breed, a female in season. This likely would qualify as a stressful life event!
- Working dogs housed in kennels show a peculiar seasonal rise in GDV incidence. Fifty percent of their GDV cases occur in winter, often after large hourly temperature drop combined with a high barometric pressure. This could be a stress response; possibly these dogs are more sensitive to weather stress.
- Underweight dogs are more likely to develop a torsion, as there is more room in a thin abdomen for the stomach to twist.

What is the dog's age?

Dogs of any age can and do develop GDV. Risk increases after five years of age in large breeds and after three years of age in giant breeds, and incidence continues to increase as dogs age.

RISK FACTORS RELATED TO EATING/DIET

How does the dog eat?

- Stress during feeding may not be recognized as such by the guardian, and it increases GDV incidence just like other stressful situations. Feeding should be a calm and quiet experience. Dogs should not feel that they are competing for food. My own Berner girls are gated away from each other, with the food at least four feet from the barrier so that another dog can not finish and then stare at the dog who is still eating. Your dogs may not seem stressed, but how do we really know? Give your dog absolute certainty that they can take their time eating, and don't let anyone – human or canine - pester them.
- When I raise my pups, every pup is fed each meal individually in their own bowl. Yes, this takes a long time, especially with three meals a day for large litters. It is well worth it, as the pups don't mind being handled while they are eating, and never have the stress of competing for their bowl of food. This is significant, as eating quickly increases GDV risk by 15%.

How often does the dog eat?

A single large meal is associated with an increased incidence of GDV. Heavy loads in the stomach stretch the gastric ligament which suspends the stomach, and repeated stretch can lead to loss of elasticity over time. This may contribute to the increased GDV incidence in older dogs.

Where does the dog eat?

Raised feeding bowls are associated with an increased risk of GDV; 20% of large breed and 52% of giant breed cases of GDV are associated with the use of raised bowls. For years we

recommended raised feeding bowls to decrease stress on the neck and back of tall dogs. The revised recommendation is to feed from a natural position on the floor, or raise bowls no higher than half the distance to the elbow.

What does the dog eat?

A diet of kibble (extruded dry food) is highly associated with an increased incidence of GDV. The presence of oil or fat among the first four ingredients in the kibble is associated with greater risk.

GDV incidence is 15 times higher than it was 30 years ago. Certainly there have been other changes in the last 30 years, but one of the biggest changes is the widespread feeding of kibble. Australia and New Zealand have much lower incidence of GDV in susceptible breeds, and those dogs eat far less kibble.

If you must feed kibble, some practices decrease GDV incidence when kibble is fed:

- Mixing table food or canned food into kibble
- Feeding kibble containing meat and bone meal (most kibble does)
- Feeding kibble with particle size >3cm / 1 ¼ inches

Certain popular older theories have been disproven:

There is no correlation of GDV risk to exercise before or after eating. Statistically, most GDV events occur at night with an empty stomach.

There is no correlation of risk to timing of drinking, or the volume of water consumed in relation to eating.

PREVENTION

- As much as possible, avoid the risk factors discussed.
- We can't change the genetics of the dogs we have, though we can consider this in our next dog.
- We can maintain a healthy biome by careful, rational use of antibiotics to avoid gut dysbiosis.
- We and our dogs alike benefit when life - and feeding - are less stressful.
- We can keep our companions at an optimal weight.
- We can feed the best diet within our means, avoiding kibble if at all possible.
- If we must feed kibble, we can add in fresh or canned food.
- We can feed our companions, so the head and neck are in a natural position.
- We can consider prophylactic gastropexy in at-risk breeds.
- A holistic practitioner can advise you on the use of carminative herbs, such as fennel, cardamom, and peppermint to decrease gas production in at-risk breeds.