VOLUME 8
NUMBER 10

The Whole Dog Journal™

A monthly guide to natural dog care and training

October 2005 $5.95

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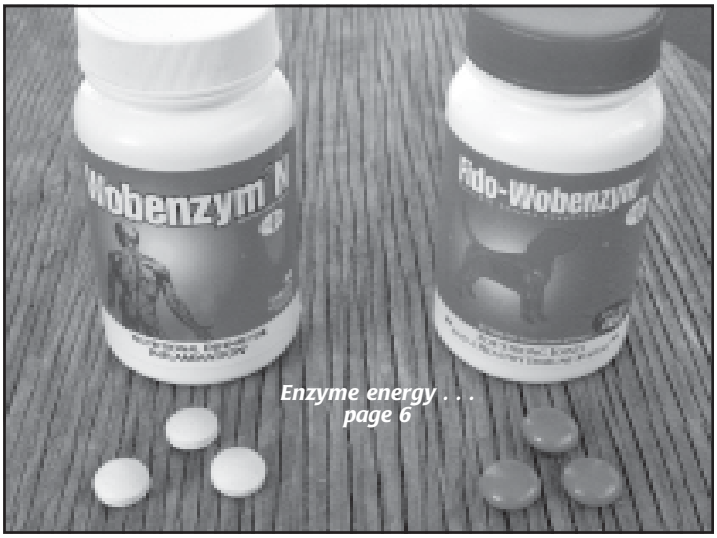

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EDITOR'S NOTE

Live and Learn

We'll do everything right with the next dog.

BY NANCY KERNS

When my beloved Border Collie, Rupert, was a puppy, I was pleased that he wasn't one of those "sharky" pups who was forever putting his pin-sharp teeth through my skin. In fact, I was so grateful, I never ever stopped to wonder *why* he never tried to bite or chew on me, not even a tiny bit.

If we were playing or roughhousing, he'd occasionally grab a pant leg or sweatshirt sleeve in hopes of initiating an exhilarating game of tug, but if he accidently put his teeth on my wrist or ankle, he'd immediately let go and cower, as if worried he'd get hit. *I* certainly never hit him, and he was raised on a sheep ranch, where I figure the farming family members were probably rather too busy to take time away from 1,000 sheep and about 12 other dogs to abuse any individual puppy. I guessed that he simply was an incredibly sweet and submissive puppy, ever sensitive to causing another creature a bit of harm.

I was dead wrong.

I still have no idea how or where Rupert developed his extreme reluctance to put his teeth on me or anyone else. But what I learned later in Rupe's life was that because he had never learned how to *gently* put his teeth on me or anyone else, when he was scared enough or backed into a corner, he would defend himself with a single, quick bite that punctured skin.

I didn't get it until after I started editing this magazine, and had the opportunity to read a number of dog training books and attend lectures on dog training and behavior. By then, Rupert had bitten two people, about five years apart: the five-year-old daughter of a good friend, who had (unbeknownst to me or her mom) chased him into a room from which he could not escape and then tried to hug him, and a teenaged girl who leaned into the open back of my little station wagon, trying to pet him (despite the fact that he was cowering away from her). Both bites punctured the skin, and both bites were to the child's face.

You can imagine; I could not have been more mortified.

I knew that in each instance he was frightened, but I could not understand why his bite was so hard in each instance – until I learned about "bite inhibition," and what an important thing it is for dogs to learn. *You* can have the benefit of learning about it now, before you get *your* next puppy, I hope. See Training Editor Pat Miller's article, "Bite-Me-Not," on the next page.

In a very related but separate article ("The 'Gift' of Growl," on page 10), Miller discusses why it's also important that people *never* punish or even admonish their dogs for growling.

While this may seem counter-intuitive to a dog owner who is highly concerned about creating a companion dog who is friendly and sociable, I think about it like this: If my darling but puncture-prone Rupert had growled at either one of the children before he bit them, I'm sure that both of them would have removed themselves from his vicinity – fast – and saved themselves a trip to the emergency room. Rupert never once growled at anyone in his lifetime, but that was clearly not a sign that he was okay with kids.

As I've said so many times in the past, I can't wait for the opportunity to do things right with my *next* dog. Maybe you won't have to wait so long.

NK

MISSION STATEMENT: WDJ's mission is to provide dog guardians with in-depth information on effective holistic healthcare methods and successful nonviolent training. The methods we discuss will endeavor to do no harm to dogs; we do not advocate perpetrating even minor transgressions in the name of "greater good." We intend our articles to enable readers to immediately apply training and healthcare techniques to their own dogs with visible and enjoyable success. All topics should contribute to improving the dog's health and vitality, and deepening the canine/human bond. Above all, we wish to contribute information that will enable consumers to make kind, healthy, and informed decisions about caring for their own dogs.

The Whole Dog Journal™

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For price quote, contact Mona Kornfeld at (203) 857-3143
Minimum order 1,000

WHOLE DOG JOURNAL DOES NOT ACCEPT COMMERCIAL ADVERTISING

THE WHOLE DOG JOURNAL (ISSN #1097-5322) is published monthly by Belvoir Media Group, LLC, 800 Connecticut Avenue, Norwalk, CT 06854-1631. Robert Englander, Chairman and CEO; Timothy H. Cole, Executive Vice President, Editorial Director; Philip L. Penny, Chief Operating Officer; Greg King, Executive Vice President, Marketing Director; Marvin Cweibel, Senior Vice President, Marketing Operations; Ron Goldberg, Chief Financial Officer; Tom Canfield, Vice President, Circulation; Michael N. Pollet, Senior Vice President, General Counsel. Periodicals postage paid at Norwalk, CT and at additional mailing offices.

Printed in U.S.A. Revenue Canada GST Account #128044658. Canada Publishing Agreement Number #40016479.

Bite-Me-Not

One of the most important things a puppy needs to learn: bite inhibition.

BY PAT MILLER

Animal care professionals are fond of saying, "All dogs will bite, given the right (wrong) circumstances." If that's the case, how have I managed to suffer only two punctures in a 30-plus-year career working with dogs? Partly through reading and responding to canine body language well enough to avoid provoking an attack (see "How to Save Yourself," September 2005). Partly, I'm sure, through luck. But largely, I suspect, because many dogs possess a wonderful quality known as "bite inhibition."

Unconscious control

Bite inhibition is the ability of a dog to control the force of his bite. Without it, even a playful grab at your sleeve when you are wrestling with your dog or a quick snap of shocked self-defense (when you accidently step on his tail, for example) can result in a serious or painful puncture. In contrast, a dog in those same circumstances who *has* well-developed bite inhibition can grab your wrist and even gently shake it, or bite at the ankle of the foot that is planted on his tail – without leaving a mark or causing you more than a moment's minor discomfort.

Canine behaviorists theorize that dogs have evolved to normally develop bite inhibition for good reason. In canine society, dogs normally use escalation of force effectively to get their messages across without inflicting grievous injury upon each other. This is important from a survival standpoint; if pack members consistently punctured each others' skins over trivial issues, they'd risk their own injury and debilitation, even death, as well as that of the pack mates they depend upon for mutual protection, food gathering, and survival. Even when encountering canines from an "alien" pack, the less actual physical engagement, the better the chances of survival for all concerned.

Fortunately for humans, this bite inhibition often transfers to us, as members of our canines' social groups.

How to get it

Bite inhibition is clearly a desirable thing. So how do you get it? Or more correctly, how does your dog get it? It's not something you'll find on the shelf of your local pet supply store!

Bite inhibition has both genetic and environmental components. That is, a dog can inherit the potential to use gentle bite pressure from parents who are also genetically programmed to mouth softly, and he can also learn to bite softly. Of course, the more strongly a desirable behavior trait is encoded in the genes, the easier it is to nurture appropriate behaviors. If your pup lacks good genes for bite inhibition, he'll need lots of environmental influence – the sooner, the better.

Genetics of bite inhibition is one of the very important reasons to meet a pup's parents, if possible, when you purchase from a breeder. While sometimes one or both parents simply aren't available for legitimate reasons, if the breeder declines because either of the parents aren't friendly, have bitten in the past, or cautions you to be careful when interacting with them, you may not want to risk purchasing a puppy from those lines. Make it a point to specifically ask if either parent has ever bitten, and if so, the severity of the bite, and how the

There is a good reason to put up with those needle-like teeth. Puppies learn lifelong "bite inhibition" from consistent consequences for too-hard and just-right chewing and mouthing. If it is forbidden altogether, they may never develop a "soft" mouth.

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WHAT YOU CAN DO . . .

- **Reinforce soft mouth contact with calm, rewarding behavior. Pups have to put their mouths on something – as long as it's soft, allow it.**
- **Protect your pup from inappropriate humans. Don't allow anyone to play "face games" – arousing your pup by slapping at his face and mouth to encourage biting.**
- **Teach your pup a softer mouth by using negative punishment – a bite that hurts stops the play; and positive reinforcement – appropriate mouthing keeps the good stuff coming.**

breeder would characterize both dogs' levels of bite inhibition. If she's not willing to discuss the topic, doesn't understand the question, or seems not to be forthcoming with information, make your puppy-purchase decision accordingly.

If you're adopting from a shelter, Mom and Dad aren't likely to be around. When you can't meet parents, your personal observations during puppy selection – always important anyway – become even more critical. Most puppies will engage in some degree of mouthing – it's how they explore their world. However, if you play with a number of puppies, you'll discover that some mouth your hands gently, others will repeatedly bite hard enough with their wickedly sharp baby teeth to cause pain, and still others will even draw blood.

Those who consistently mouth gently have a healthy degree of innate bite inhibition and/or have learned their lessons well from Momdog and siblings who let them know when they bite too hard. Those who cause pain or draw blood need more lessons. There's a good chance they can still turn into great dogs – and it will take more input on your part to teach them to be gentle with their teeth. The older a pup is, the more effort it will take to install bite inhibition, and the greater the likelihood that you'll be less successful.

One of the reasons it's such a tragedy to remove a pup from his litter too soon is that he'll miss those all-important bite-inhibition lessons from Momdog and sibs. This is also one of the big drawbacks of adopting a singleton – a pup with no littermates. I strongly recommend you wait to take your new pup home until he's at least seven weeks, preferably eight, regardless of how eager the breeder is to give him up. Your own bite inhibition lessons can never be as effective with your pup as those from his own kin. No matter how hard we try, we just can't speak dog as well as dogs can.

Don't punish!

In past times, and unfortunately sometimes still today, dog owners were counseled to use aversives to try to teach bite inhibition. If a puppy gnawed on your hands, some trainers suggested holding his muzzle closed as punishment, "cuffing" him under the chin with an open palm, or worse, shoving a fist down the pup's throat. In a word… "Don't!"

Not only are these methods abusive and have the potential to teach your pup to fear your hands, they can also trigger aggressive responses from assertive or fearfully defensive pups. If they do succeed in putting a stop to the mouthing, you may have taught the pup that his only options are to "Not Bite" or to "Bite Really Hard" rather than the third important "If You Must Bite, Bite Gently" option.

Remember, all dogs bite, given the right (wrong) set of circumstances. With enough provocation, even the most tolerant and gentle of dogs might be induced to put her mouth on human skin. With good bite inhibition, provocation is likely to result in a polite, "Please don't do that" mouth-on-skin warning. Without it, the provoked dog is likely to cause serious damage when he puts his teeth on someone.

Things to do

The older a dog is when you start trying to teach bite inhibition, the greater the likelihood that, while you may succeed in teaching the dog to consciously use his mouth more gently, he will still fall back into hard biting during times of stress and arousal.

If you have a pup with naturally good bite inhibition, consider yourself blessed, and take steps to preserve this valuable natural resource. If not, start immediately to cultivate bite inhibition.

Play fetch games with your pup to direct his mouth toward appropriate toys to take some of the "wild puppy" edge off his bite. Be sure to give him plenty of exercise daily. A tired pup is a well-behaved pup. Consult your vet for guidance on how much exercise is appropriate for your pup.

Work with his bite inhibition while he's in an ex-pen or on a tether so you can calmly escape his shark teeth. Begin petting him and playing gently. As long as he's not causing pain, even if he's putting his mouth on you with some pressure, continue playing.

If he bites and hurts you, calmly say "Ouch!" and walk away from him. Step outside the reach of the tether, or exit the ex-pen so he can't follow you and continue to bite. The "Ouch!" isn't intended to stop the biting; it only marks the behavior – tells him what he did that made you leave. This is negative punishment – his biting behavior makes a good thing – you – go away.

Wait 20-30 seconds to give him time to calm down, then go back to him and calmly resume playing. If he's barking and aroused, wait to return until he settles. As long as he bites softly, continue playing. Any time his bite hurts, say "Ouch!" and leave.

If several repetitions don't seem to reduce hard biting, give him longer time-outs to give him more time to settle.

Over time, as he learns to control his hardest biting, you can raise the bar – use the same methods to gradually shape a softer and softer mouth. When he's no longer biting hard enough to hurt, use your "Ouch" technique for moderately hard bites, then medium ones, then finally, as he outgrows the puppy stage at 5-6 months, for any bites to skin at all.

No Warning?

Contrary to popular belief, dogs only rarely – if ever – bite someone without plenty of warning signals. The problem is, not enough dog owners are alert to or educated about those signals and precursers to biting. A dog's escalation of force often includes the following behaviors, frequently in the following order:

- Non-contact body language: freeze, hard stare, a "whale-eye" – a quick sideways look with the whites of the eye flashing – growl, snarl, air-snap
- Mouth-closed contact: a hard bump of the nose, no tooth contact; the dog's way of politely saying, "Please don't do that…"
- Mouth-open contact: mouth closes on skin with gentle to moderate pressure, as if the dog is saying, "I said don't do that!"
- A dog with excellent bite inhibition stops here, unless given extreme provocation to bite. Dogs with lesser bite inhibition may skip some or all of the early warning steps and will eventually or quickly proceed to Level 3 bites that break skin, and perhaps higher.

A flashing "whale eye" is a warning: "You're bugging me!"

If you must handle him when he's being "bitey" – to groom, trim his nails, attach his leash – keep his teeth busy nibbling at treats you hold in one hand while you work with the other, or have a helper feed treats so you have both hands free to groom, trim, or leash.

This method of marking the inappropriate behavior and walking away from the pup imitates, to some degree, the behavior of Momdog and littermates when a pup bites too hard. If needle-sharp teeth clamp too hard on Momdog's tender teats, she may stand up and exit the den. Pups learn to nurse gently to keep the milk bar open. Similarly, when pups play together, if one is too rough his playmate may "Yipe!" and decline to continue the game. Pup learns to inhibit his bite to keep the fun happening.

Some trainers teach owners to give a high-pitched "Yipe!" or "Ouch!" to mimic a littermate's protestations. While this can work with some pups, others find it more arousing – perhaps because we don't really know what we're saying when we try to speak Dog.

I advise my clients to skip trying to imitate a puppy "Yipe!" and just use a calm "Ouch!" as a marker. If you do try the "Yipe!" once or twice and it works, great. If it doesn't, don't keep doing it! Simply replace it with a more composed marker.

More tips

Pups with poor bite inhibition can exhibit exceedingly frustrating behaviors. It's easy to lose patience when those needle-sharp puppy canines sink into your skin. Remember that these "sharky" little guys usually love reactions; you're playing into their paws when you lose your temper with them.

Use management solutions such as crates and baby gates so your pup doesn't have access to you when you're dressed up. Have treats and toys handy so you can toss them away from you and divert him when he's approaching with mayhem on his mind. Do lots of work on the tether so you can repeatedly send the message that hard bites make the good stuff go away.

Young children should play with a shark-pup only under direct supervision, and only when the puppy is in a mellow mood. Most pups develop predictable cycles – if you know he's calmest early to mid-afternoon, that's when he can play with the kids. Controlled games only – no running around the backyard squealing while puppy tries to latch onto chubby, tender toddler legs!

If you're doing positive training, with treats – and of course we hope you are – a hard-mouthed puppy can bring you to tears and leave your fingers bleeding as he clamps down on treats. It's reassuring to know it gets easier when they lose their sharp baby teeth at five to six months, but meanwhile you're tempted to stop training, or at least stop using treats! Try these temporary solutions:

■ Keep your treat hidden in your closed fist until you feel your pup's mouth soften. Then open your hand and feed the treat from the palm of your hand like you would feed a horse. This teaches the pup he gets the treat when his mouth is soft, and prevents finger-shredding because he's taking it from your palm.

■ Use metal finger splints. Available over-the-counter at pharmacies, these handy gadgets protect your fingers and teach him to be soft because most dogs don't like to bite on metal.

■ Feed treats from a metal spoon. This keeps your fingers out of his mouth and teaches him to be gentle; few dogs like to bite metal.

■ Toss treats on the floor instead of hand-feeding. This is a temporary solution, as there are many times in training when it's far preferable to feed from the hand than the floor. On occasion though, it can save your fingers – and your sanity.

It may take a while to see the positive results of your gradual bite-inhibition lessons, but it's worth it. Lucy, our Cardigan Corgi came to us at five months of age with a pretty hard bite – you knew when she took a treat from your fingers! It took months, and a lot of patience, to get her bite to soften.

At first it seemed we made no progress at all. Then for several months she'd start to bite down, I'd say "Ouch!" and feel her pause and relax her mouth before taking the treat. Now, at age 18 months, she takes treats sweetly, leaving fingers behind, intact, without a reminder. That alone was worth the effort, and I pray that it translates to true bite inhibition and nothing more than a Level 2 bite should the occasion ever arise that she feels compelled to put her teeth on human skin in earnest. 🐾

Pat Miller, CPDT, is WDJ's Training Editor. She is also author of The Power of Positive Dog Training, *and* Positive Perspectives: Love Your Dog, Train Your Dog. *Miller lives in Hagerstown, Maryland, site of her Peaceable Paws training center. For book or contact information, see "Resources," page 24.*

Dr. Ian Dunbar's Bite Hierarchy

The following descriptions were developed by Dr. Ian Dunbar, veterinary behaviorist and pioneer in the field of gentle puppy training, and are often used by trainers and behavior professionals as a shorthand method of referring to the severity of a bite that a dog has inflicted. Rather than having to describe injuries in gruesome detail, we can just say, "The 90-pound Labrador has inflicted Level 4 bites on three separate occasions." (Yikes!)

■ Level 1: Harassment but no skin contact

■ Level 2: Tooth contact on human skin but no puncture

■ Level 3: Skin punctures; 1-4 holes from a single bite (all punctures shallower than length of canine)

■ Level 4: 1-4 holes, deep black bruising with punctures deeper than length of canine (dog bit and clamped down), or slashes in both directions from puncture (dog bit and shook head)

■ Level 5: Multiple bite attack with deep punctures, or multiple attack incident

■ Level 6: Killed victim and/or consumed flesh

Digest These Benefits

A digestive enzyme supplement helps dogs recover from illness and injury.

BY CJ PUOTINEN

Even when their formulas don't change, there's always something new to discover about old, familiar products. This month we're updating information on the safety and uses of Wobenzym, a supplement that became a favorite of many WDJ readers after our article on the product ("Banking on Enzymes") appeared in January 2001.

Charles Green is America's largest Wobenzym distributor. When his Las Vegas supplement store was listed as a resource in the article, over a thousand of us ordered the product for our dogs.

"I didn't know whether to kiss you guys or tear my hair," says Green. "You bought just about all the Wobenzym we had, and this is a product that's hard to keep in stock. Most ordered it to help their dogs' arthritis or cancer. I know it works because today, over four years later, we're still getting repeat orders from many of the same people. Some are now taking it themselves as well as giving it to their dogs."

What it is

In Germany, Wobenzym is second in popularity only to aspirin among over-the-counter remedies. It's also the most thoroughly researched enzyme supplement available worldwide. (The product's proper name is Wobenzym N, but most call it Wobenzym for short.) Its blend of pancreatin, trypsin, chymotrypsin, bromelain, papain, and rutin would normally act as a digestive aid, but Wobenzym is taken between meals on an empty stomach and its enteric coating protects these ingredients until they are released in the small intestine. From there they move throughout the body, reducing inflammation wherever it occurs by breaking harmful proteins into smaller chains of amino acids. This type of treatment is called "systemic oral enzyme therapy."

Despite a difference in appearance and packaging, these two products labeled for humans and for dogs are exactly the same in content and purpose.

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WHAT YOU CAN DO . . .

- **Keep Wobenzym on hand for injuries, or use daily for arthritis, inflammation, skin problems, or auto-immune disease.**
- **Follow label directions or use one of the protocols described here.**
- **Do not give to dogs with bleeding disorders. Check gums and eyes for spots, paleness, or signs of bleeding. Discontinue or reduce the dose if necessary.**
- **Find a safe, effective maintenance dose that keeps your dog comfortable and active.**

Wobenzym was developed in the 1950s in the United States by Drs. Max Wolf and Helen Benitez of Columbia University, who named the product "wo" for Wolf, "ben" for Benitez, and "zym" for enzymes. Their research showed that proteolytic (protein-digesting) enzymes have four significant properties when circulating through the body: they break down inflammation, break down harmful fibrous tissue, reduce blood viscosity to prevent harmful clotting without the adverse side effects of aspirin and other blood-thinning medications, and they support immune function.

Despite its benefits, Wobenzym did not become a successful supplement until it moved to Germany. It has since been tested in over a hundred medical studies and clinical trials, most conducted in Europe.

Wobenzym is recommended for bruises,

sprains, and all types of sports injuries as well as arthritis and any illness that involves inflammation. European Olympic teams use Wobenzym as a preventive (the result is a reported 50-percent reduction in injuries) and, by increasing the dose, to treat any type of trauma injury and accelerate healing.

The bioflavonoid rutin, one of Wobenzym's ingredients, prevents the discoloration and pain associated with bruises. German surgeons routinely prescribe Wobenzym to prevent bruising, swelling, edema, and pain, significantly reducing post-surgical recovery time, and German hospitals give large amounts to those with serious injuries to prevent brain swelling and speed recovery.

According to its manufacturer, Wobenzym has been shown in clinical trials and medical studies to reduce the incidence of fatal blood clots resulting from the sudden breakdown of vulnerable plaque; increase feelings of well-being; help prevent heart attacks and strokes; help protect the body from environmental toxins; and effectively treat arthritis, autoimmune disorders, rheumatic, and cardiovascular diseases, infections, tumor illnesses, herpes and other viral infections, cancer, hepatitis C, recurrent miscarriages, and many degenerative diseases.

The label-recommended human dose is three tablets twice daily, taken at least 45 minutes before meals, or as recommended by a health care professional. Those health care recommendations are often substantially larger, as Charles Green learned while interviewing physicians and scientists about Wobenzym on his "Health Talk" radio show.

"I'm always being told by these experts," he says, "that the label dose is extremely conservative. It's really the recommended maintenance dose for healthy 18-year-olds. As we age or become ill or injured, our bodies deplete their stored enzymes, so larger doses are required for maintenance.

"Among middle-aged arthritis or fibromyalgia sufferers, daily doses of 30 or 40 tablets or more may be needed to alleviate symptoms. Those recovering from accidents, injuries, surgery, or illnesses like cancer often take more. The optimal dose depends on the body's response. Diarrhea, which results when you take more than you need, is the only adverse side effect documented in humans.

"Anti-inflammatory drugs like aspirin, non-steroidal anti-inflammatory drugs (NSAIDs), and Cox-2 inhibitors kill thousands of Americans and hospitalize many more for the treatment of side effects. Wobenzym is sold in over 40 countries, is taken by millions every day, and has never killed anyone."

Wobenzym helped this Boxer recover from an eye ulcer that failed to heal with treatment including conventional veterinary drugs, and prevented further ulcers.

Dog version?

Two types of Wobenzym are available in the U.S. Both have the same contents, but their coatings differ. Plain Wobenzym is light beige in color, while the product sold as Fido-Wobenzym has a red coating and a less pronounced odor.

"There's a lot of confusion about Fido-Wobenzym," says Green. "Some Web sites state that it's a special formulation developed just for canines, or that the recommended doses of the two versions are different. Neither statement is true."

Fido-Wobenzym is the same product that's sold for human use in Europe. Its red coating contains a small amount of sugar and food dyes, and because American consumers wanted a sugar-free product that doesn't contain coloring agents, the manufacturer created a plain no-sugar coating for the U.S. market. Some people like the red coating better – it's a matter of personal preference.

Literally, the only difference between the red product and the beige product is the coating, and the only difference between the red product and Fido-Wobenzym is the label. Says Green, "Fido-Wobenzym comes in small containers of 33 or 99 tablets, which makes it more expensive, while regular Wobenzym, which is sold in bottles holding 200, 400, or 800 tablets, is more economical."

Fido-Wobenzym arthritis trial

In 2002, Beverly Cappel, DVM, a holistic veterinarian in Chestnut Ridge, New York, conducted a double-blind placebo-controlled crossover study of Wobenzym N/Fido-Wobenzym in the care and management of canine arthritis. Sixty dogs diagnosed with various types of arthritis were divided into two groups and given Fido-Wobenzym or identical placebo tablets for six to nine weeks. The study tested doses of one tablet twice per day or two tablets twice per day.

"In Europe, where this preparation is widely used," explains Dr. Cappel, "it is known to exert joint-sparing and anti-inflammatory effects without the gastrointestinal complications or other complications associated with NSAIDs."

The dogs in the study continued with their existing protocol (if any) of prescribed medication or natural remedies. Most of the dogs were already receiving supplements such as glucosamine sulfate, chondroitin sulfate, methylsulfonylmethane (MSM), boswellia, alfalfa, and other arthritis-support

herbs as well as antioxidant vitamins.

"This was a placebo-controlled trial," says Dr. Cappel, "but it was obvious which dogs were taking the Wobenzym. They were the ones who stopped limping soon after the study started and were able to go for longer walks. Their owners noted that these dogs appeared to have much less pain. They started acting like young dogs again. A key benefit was the reduction of inflammation. Several patients who responded well were older dogs who were having trouble getting up or couldn't do stairs or would only go for very short walks. Being able to get up the stairs again or go for longer walks – those are priceless benefits. After the study concluded, many owners came in for refills."

In a separate small observational study conducted at the same time, eight dogs with cancer were given Fido-Wobenzym. In Europe, Wobenzym is a popular supplement for those with cancer because it may prevent metastasis. "We saw excellent results with small tumors and extended survival periods," reports Dr. Cappel. "Of the group, two died, but the others did well. Their owners and our own clinical and laboratory indications indicated that the tumors either became static or regressed."

Most of these dogs were also being given alternative cancer treatments such as carnivora (a European extract of the carnivorous herb Venus fly trap), Chinese herbs, raw-food diets, and turmeric. "Even if your pet is already being given holistic support for cancer," says Dr. Cappel, "the systemic enzymes seem to help there, too."

It's not for every dog

But Wobenzym is not without side effects, at least in some dogs. Dr. Cappel first noticed platelet problems in patients whose owners were already giving them Wobenzym for arthritis or cancer at doses higher than Fido-Wobenzym's label recommendation.

She says that Wobenzym is not likely to produce adverse effects at doses of up to two tablets twice per day (four tablets daily), but as a precaution, she recommends no more than three tablets per day, which she considers very safe. Owners of dogs taking higher amounts, such as six or more tablets daily, should watch for any of the following symptoms, which might indicate platelet problems, internal bleeding, or anemia: small blood spots on the gums, pale gums, any abnormal bleeding, or bloodshot eyes.

Among Dr. Cappel's patients who developed platelet problems, none became sufficiently anemic to develop white or pale gums. The problem, which occurred in male and female dogs of different ages, breeds, sizes, and conditions, several of which ate a raw home-prepared diet, developed within the first six weeks of daily supplementation with Wobenzym. Immediately reducing the dose or stopping the product resolved these symptoms.

Many dogs have taken substantially larger doses with no difficulty, as described later in this article, but Wobenzym's combination of enzymes can thin the blood. Wobenzym is not recommended for dogs with bleeding or clotting disorders or for any animal on medication that causes blood thinning.

Those who give their dogs digestive enzymes with food don't have to worry about platelet problems even if their dogs are on blood-thinning medication or suffer from a bleeding disorder because enzyme powders that are sprinkled on food according to label directions do their work in the stomach, assisting digestion. In systemic oral enzyme therapy, which is where Wobenzym is used, the enzymes are protected from stomach acid and do not interact with food.

Elliot, a large terrier mix, had debilitating arthritis at the age of 13; several vets recommended euthanasia. Wobenzym restored his mobility and comfort.

Penny's eye ulcer

In November 2000, Penny, a six-year-old Boxer belonging to San Diego resident Pam Klassen, scratched her eye while chasing lizards in deep brush at her favorite lake. The eye became very sore, infected, and running with pus. Penny's veterinarian prescribed an antibiotic ointment, but that didn't help.

"Over the next two months we tried several different antibiotics, but nothing seemed to work," Klassen reports. "The ulcer kept getting worse. The vet finally sent us to a specialist who wanted to perform an operation on her eye, sewing her third eyelid over the eye in hopes of healing the ulcer. The cost would be over a thousand dollars, and he said that it didn't always work. Fortunately, I had just read the issue of WDJ that contained the 'Banking on Enzymes' article (January 2001). After reading about how it helped a dog with cancer and another with a back injury, I decided to give it a try for Penny's ulcer."

Klassen started Penny on five Wobenzym tablets per day and added five per day until she saw improvement. "This maxed out at giving her 40 tabs per day in four divided doses of 10 tablets at a time," she says. "The only side effect she showed was a little diarrhea and gas. If she seemed uncomfortable with her stomach, I would back off a day and let her body rest.

"I first observed that Penny seemed to be in less pain. She was not holding her eye shut, and the discharge slowed, eventually became clear, and finally stopped altogether. Pretty soon I saw tiny blood vessels all over the milky color of the ulcer, which I had learned is a good sign of healing. Then the blood vessels went away and only a slight milky area was visible. That, too, disappeared, and at that point, I began to reduce her dosage. Eventually her eye became clear,

sparkly, and healthy with no apparent long-term damage."

Penny's first ulcer took about six weeks to cure. "Then she got an ulcer in her other eye," says Klassen. "I started giving her Wobenzym right away without all the extra vitamins I had used the first time. This time she took 20 tablets per day for less than three weeks, and the ulcer disappeared. She is such a stinker about chasing critters, she is prone to these ulcers. Now if I catch her digging in the yard and she has dirt in her eyes, I promptly wash them out with a mild salt water solution and put her on Wobenzym for several days. Usually she never develops an ulcer at all.

"I saw a woman walking at the lake with a Boxer and while talking to her, I could see that her dog had a big milky ulcer on his eye. When she said they were having a hard time curing it, I told her about my experience. She bought Wobenzym, tried it, and completely cured her dog's ulcer. This product is amazing! I now take it myself every day as a preventive."

A veterinarian's protocol

Mary Foster, DVM, who practices veterinary medicine in Gainesville, Florida, became interested in systemic oral enzymes five years ago. She has been prescribing Wobenzym for canine patients ever since.

One of her first Wobenzym patients was Elliott, a large Terrier mix with hip dysplasia and severe arthritis in both knees. Elliott was 13 when he slipped on a hardwood floor and couldn't get up. His owner, Leanne Lawrence, took him to three veterinarians, all of whom recommended that Elliott be euthanized to put him out of his misery. Then she found Dr. Foster, who makes house calls.

"I always carry Wobenzym with me," says Dr. Foster, "and as soon as I saw Elliot, I started him on five tablets per hour. I also had Leanne encourage him to stand and walk on a safe, carpeted surface, because motion often helps dogs with his condition feel better. Just after his third dose, he and Leanne were walking down the street."

Elliot resumed his active, roaming life, even though he was diagnosed with bone cancer at 15. "I treated him homeopathically and holistically," says Dr. Foster, "and the bone tumor went away. It really amazed the veterinarian who did his biopsy, along with everyone else. Elliot finally died in his sleep last winter at 17."

Dr. Foster prescribes Wobenzym for arthritis, hip dysplasia, injuries, skin and coat problems, autoimmune disorders, and any condition that involves inflammation. Although she uses doses much higher than those on the label, her patients have yet to experience any platelet problems or signs of anemia. "I've given it to more than a hundred dogs, most of whom I see on a regular basis," she says. "Some have been taking it every day for five years. The only situation where I wouldn't use it would be if the dog has a stomach ulcer, which is rare but can result from taking certain medications."

How does Dr. Foster decide how much to use? "I usually give it to effect," she explains. "This means increasing the dose until symptoms respond. For most conditions, I start with one tablet per 10 pounds of body weight up to a maximum of five tablets at a time and give that amount twice or three times a day. In a serious condition where the dog is badly injured or can't move because of pain, I'll give that amount more often, like every one or two hours."

Wobenzym works best if taken on an empty stomach between meals. Dr. Foster reports that most dogs, including her own, will eat the tablets out of her hand. "I use the plain tablets, not the red-coated ones, and they just swallow them. For dogs who aren't interested, some people flavor the tablets with tuna water. You can give them with a small amount of food if necessary, but it works best without food. For dogs who enjoy catching food, a game of catch can be an easy way to give it."

Once a dog responds to the initial dose, Dr. Foster stops increasing the amount and looks for an effective maintenance dose. "I study the dog's symptoms," she says. "I look for physical comfort, improved range of motion, increased playfulness, and similar improvements. Once the dog is on a daily dose that produces good results, we continue it for several weeks before cutting back. I don't want to reduce the amount too soon, as a body that's in damaged condition needs all the enzyme support it can get.

"Then, to see if a smaller dose can maintain good results, we reduce the amount by one or two tablets in each divided dose during the day, then continue at that amount for several weeks unless symptoms recur."

If the dog injures herself, begins limping, or shows other symptoms, Dr. Foster increases the dose again.

"I've noticed that the longer dogs are on a maintenance dose of Wobenzym, the fewer crises they have. It seems to prevent injuries as well as treat them. And the Wobenzym dogs recover much faster from surgery than other dogs. I watch for post-operation swelling and if it occurs, I increase the dose. Otherwise, they just stay on their maintenance dose before and after the operation. If they aren't already taking Wobenzym, I recommend giving one tablet per 5 pounds of body weight twice a day for small dogs and one tablet per 10 pounds twice a day for large dogs, up to a maximum of five tablets at a time, for a week or two before elective surgery.

"I don't know what I'd do without Wobenzym," she concludes. "As far as I'm concerned, it's a miracle." 🐾

Author of The Encyclopedia of Natural Pet Care, Natural Remedies for Dogs & Cats, *and other books, CJ Puotinen lives in New York with her husband, Labrador Retriever, and red tabby cat.*

Resources Mentioned in This Article

The Aspirin Alternative: The Natural Way to Overcome Chronic Pain, by Michael Loes, MD, and David Steinman. Freedom Press, 1999

The Non-Drug European Secret to Healing Sports Injuries Naturally, by Michael Loes, MD, and David Steinman. Freedom Press, 1999

Charles Green, MisterGreenGenes, Las Vegas, NV. (800) 588-8139, buywobenzym.com, betterhealthtalkradio.com

Marlyn Neutraceuticals, Inc., Phoenix, AZ. Wobenzym's importer. (888) 766-4406, naturally.com

Beverly Cappel, DVM, Chestnut Ridge, NY. (845) 356-3388, vetatthebarn.com

Mary Foster, DVM, Gainesville, FL. (352) 258-4447

The "Gift" of Growling

Why you should never punish a dog for growling.

BY PAT MILLER

Clients always appear a bit stunned at first when I tell them their dog's growl is a *good* thing. In fact, a growl is something to be greatly treasured.

These are my aggression consultation clients, who are in my office in desperation, as a last resort, hoping to find some magic pill that will turn their biting dog into a safe companion. They are often dismayed and alarmed to discover that the paradigm many of us grew up with – punish your dog harshly at the first sign of aggression – has contributed to and exacerbated the serious and dangerous behavior problem that has led them to my door.

It seems intuitive to punish growling. Growling leads to biting, and dogs who bite people often must be euthanized, so let's save our dog's life and nip biting in the bud by punishing him at the first sign of inappropriate behavior. It makes sense, in a way – but when you have a deeper understanding of canine aggression, it's easy to understand why it's the absolute wrong thing to do.

Communication efforts

Most dogs don't want to bite or fight. The behaviors that signal pending aggression are intended first and foremost to warn away a threat. The dog who *doesn't want to* bite or fight tries his hardest to make you go away. He may begin with subtle signs of discomfort that are often overlooked by many humans – tension in body movements, a stiffly wagging tail.

"Please," he says gently, "I don't want you to be here."

If you continue to invade his comfort zone, his threats may intensify, with more tension, a hard stare, and a low growl.

"I mean it," he says more firmly, "I want you to leave."

If those are ignored, he may become more insistent, with an air snap, a bump of the nose, or even open mouth contact that closes gently on an arm but doesn't break skin.

"Please," he says, "don't *make* me bite you."

If that doesn't succeed in convincing you to leave, the dog may feel compelled to bite hard enough to break skin in his efforts to protect self, territory, members of his social group, or other valuable resources.

A professional dog trainer or behaviorist can help you learn to see and interpret the signals your dog uses to try to tell you that he is uncomfortable, so you can remove the stressor – or at least, remove the dog from a stressful situation.

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WHAT YOU CAN DO . . .

- **Understand and appreciate that a growl is your dog's cry for help – don't punish!**
- **Determine what things make your dog so uncomfortable that he feels compelled to growl.**
- **Help change his opinion of his stressors from bad to good so he no longer feels the need to growl.**

Caused by stress

What many people don't realize is that aggression is caused by stress. The stressor may be related to pain, fear, intrusion, threats to resources, past association, or anticipation of any of these things. An assertive, aggressive dog attacks because he's stressed by the intrusion of another dog or human into his territory. A fearful dog bites because he's stressed by the approach of a human. An injured dog lacerates the hand of his rescuer because he's stressed by pain.

When you punish a growl or other early warning signs, you may succeed in suppressing the growl, snarl, snap, or other warning behavior – but you don't take away the stress that caused the growl in the first place. In fact, you *increase* the stress, because now you, the dog's owner, have become unpredictable and violent as well.

Worst of all, and most significantly, if you succeed in suppressing the warning signs, you end up with a dog who *bites*

Once you learn the triggers that make your dog uncomfortable, you can try to keep them at a distance.

Counter-conditioning and desensitization teaches the dog that it is rewarding to stay calm in the face of stress.

without warning. He has learned that it's not safe to warn, so he doesn't.

If a dog is frightened of children, he may growl when a child approaches. You, conscientious and responsible owner, are well aware of the stigma – and fate – of dogs who bite children, so you punish your dog with a yank on the leash and a loud "No! Bad dog!" Every time your dog growls at a child you do this, and quickly your dog's fear of children is confirmed – children *do* make bad things happen! He likes children even less, but he learns not to growl at them to avoid making you turn mean.

You think he's learned that it's not okay to be aggressive to children, because the next time one passes by, there's no growl.

"Phew," you think to yourself. "We dodged *that* bullet!"

Convinced that your dog now accepts children because he no longer growls at them, the next time one approaches and asks if he can pat your dog, you say yes. In fact, your dog has simply learned not to growl, but children still make him very uncomfortable. Your dog is now super-stressed, trying to control his growl as the child gets nearer and nearer so you don't lose control and punish him, but when the scary child reaches out for him he can't hold back any longer – he lunges forward and snaps at the child's face. Fortunately, you're able to restrain him with the leash so he doesn't connect. You, the dog, and the child are all quite shaken by the incident.

It's time to change your thinking.

"Help!"

A growl is a dog's cry for help. It's your dog's way of telling you he can't tolerate a situation – as if he's saying, "I can't handle this, please get me out of here!"

Your first response when you hear your dog growl should be to calmly move him away from the situation, while you make a mental note of what you think may have triggered the growl. Make a graceful exit. If you act stressed you'll only add to his stress and make a bite more, not less, likely. Don't worry that removing him rewards his aggression; your first responsibility is to keep others safe and prevent him from biting.

If the growl was triggered by something *you* were doing, stop doing it. Yes, your dog learned one tiny lesson about how to make you stop doing something he doesn't like, but you'll override that when you do lots of lessons about how that thing that made him uncomfortable makes *really, really good stuff* happen.

This is where counter-conditioning comes in. Your dog growls because he has a negative association with something – say he growls when you touch his paw. For some reason, he's convinced that having his paw touched is a bad thing. If you start by touching his knee, then feeding him a smidgen of chicken, and keep repeating that, he'll come to think that you touching his knee *makes* chicken happen. He'll *want* you to touch his leg so he gets a bit of chicken.

Note: Make sure your dog's discomfort with you touching his paw is not related to pain. If it hurts when you touch him there, counter-conditioning won't work. It's a good idea to get a full veterinary workup if there's any chance your dog's growling may be pain-related.

When you see him eagerly search for chicken when you touch his knee, you can move your hand slightly lower and touch there, until you get the same "Where's my chicken?!" response at the new spot. Gradually move closer and closer to his paw, until he's delighted to have you touch his foot – it makes chicken happen! Now practice with each foot, until he's uniformly delighted to have you touch all of them. Remember that the touch comes first, so it consistently predicts the imminent arrival of chicken.

If at any time in the process – which could take days, weeks, or even months, depending on the dog and how well you apply the protocol – you see the dog's tension increase, you've moved too quickly. Back up a few inches to where he's comfortable being touched and start again. Or, there may be other stressors present that are increasing his tension. Do an environment check to be sure nothing else is happening that's adding to his stress. Have the rowdy grandkids leave the room, give him a little time to relax, and start again.

Remember, dogs can't tell us in words what's bothering them, but they can communicate a lot with their body language and canine vocal sounds. Pay attention to what your dog is telling you. Listen with heart and compassion. Be gentle when your dog tells you he needs help. Come to his rescue. Treasure his growl. 🐾

Pat Miller, CPDT, is WDJ's Training Editor. She is also author of The Power of Positive Dog Training, *and* Positive Perspectives: Love Your Dog, Train Your Dog. *Miller lives in Hagerstown, Maryland, site of her Peaceable Paws training center. For book or contact information, see "Resources," page 24.*

Crazy About Coconut Oil

"Virgin" or unrefined, this healthy oil has multiple benefits for your dog.

BY CJ PUOTINEN

What's the hottest new health food for pets and people? If you're like most Americans, it's something you've been avoiding for years – either that or you think it's a sun tan lotion, not a food. That's right, we're talking about coconut oil.

An important ingredient in America's processed foods for most of the 20th century, coconut oil is one of the world's few saturated-fat vegetable oils. That designation gave it a terrible reputation, and by the 1980s and '90s, it all but disappeared from our food supply. Then the vegetable oils that replaced it caused more harm than coconut oil ever did, and now coconut oil is making a comeback.

For thousands of years, coconuts have been a staple of tropical cuisines, and those who followed a traditional coconut-based diet, such as Pacific Islanders, had none of the heart disease, cancer, diabetes, or other illnesses that plague modern America.

According to its advocates, when taken internally, coconut oil:

- Reduces the risk of cancer and other degenerative conditions
- Improves cholesterol levels and helps fight heart disease
- Improves digestion and nutrient absorption
- Heals digestive disorders like Crohn's disease, irritable bowel syndrome, ulcers, and colitis
- Contains powerful antibacterial, antiviral, and antifungal agents that prevent infection and disease
- Relieves arthritis
- Prevents and treats yeast and fungal infections, including thrush and candidiasis
- Prevents and treats viral infections, including herpes, measles, and the flu
- Helps balance the body's metabolism and hormones
- Promotes normal thyroid function
- Helps prevent or control diabetes
- Rejuvenates the skin and protects against skin cancer, age spots, acne, and other blemishes
- Helps prevent osteoporosis
- Reduces allergic reactions
- Supplies fewer calories than other fats.

Applied topically, its boosters say that coconut oil also does the following:

- Disinfects cuts
- Promotes wound healing
- Improves skin health and hair condition
- Deodorizes whatever it touches (some people brush their teeth with it or use it as an underarm deodorant)
- Clears up warts, moles, psoriasis, eczema, dandruff, precancerous lesions, athlete's foot, jock itch, diaper rash, ringworm, vaginal yeast infections, and toenail fungus.

All of this is excellent news for people and their dogs, for most of coconut oil's human benefits are shared by canines. And dogs love the taste, which makes feeding coconut oil and other coconut products easy and pleasant.

Get the right type

Coconut oil is produced in Thailand, Fiji, the Philippines, Brazil, Indonesia, India, Sri Lanka, Jamaica, Hawaii, Mexico, the Solomon Islands, Belize, Samoa, and other countries around the world. Most health food stores carry at least one or two brands, and many retailers sell coconut oil online or by mail.

There are two main types of coconut oil.

Refined coconut oil (often labeled RBD for Refined, Bleached, and Deodorized) is made from copra, or dried coconut meat, then treated to remove impurities. Most RBD coconut oil is inexpensive, bland, and odorless. It doesn't contain all of the nutrients found in unrefined coconut oil, its fragrance and flavor are different, and in most cases the coconuts used to produce it are of low quality and chemicals like chorine and hexane are used in the refining process. Some brands of refined coconut oil are labeled for use as a skin and hair care product.

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WHAT YOU CAN DO . . .

- **Sample coconut oils (only the products that have not been hydrogenated) from your health food store or online resources – and share them with your dog.**
- **Feed small amounts and increase gradually to about 1 tablespoon per 30 lbs body weight daily.**
- **Watch for changes in your dog's energy, skin, coat, breath, and body odor.**
- **Apply coconut oil topically to cuts, wounds, infected ears, bites, and stings.**

Unrefined or "virgin" coconut oil, which is made from fresh coconuts, has culinary and health experts excited. Pressed by hand using traditional methods or manufactured in state-of-the-art factories, virgin coconut oil retains most of the nutrients found in fresh coconut.

In traditional methods, coconut meat is heated or baked until dry and then pressed, or fresh coconut milk is pressed from the meat and then heated to remove its water content, or freshly pressed coconut milk is allowed to ferment for 24 to 36 hours, during which the oil separates from the water. In modern factories, expeller-pressed coconut milk is centrifuged and vacuum-evaporated to remove water. Other methods of removing water from coconut oil include refrigeration and the use of enzymes.

The result of these traditional and modern manufacturing methods is an assortment of coconut oils in a range of flavors, prices, and quality.

Refined coconut oil can cost as little as $3 for a 16-ounce (one-pint) jar, while the same amount of virgin organic coconut oil can cost $18 or more. Several brands are available in larger sizes, including gallon tubs, which lowers their per-ounce cost considerably. Assuming the oil is correctly labeled and properly prepared, virgin organic coconut oil in glass rather than plastic is the favorite of most experts.

Depending on temperature, coconut oil will be solid or liquid. Below 75° Fahrenheit, coconut oil is solid and white, like lard or vegetable shortening, and it is sometimes called coconut butter. At 76° F and above, coconut oil is a transparent liquid.

Good-quality oil is colorless when liquid and pure white when solid, never yellow or pink, and it should not contain any residue or have an "off" or rancid odor. "Many people complain that coconut oil makes their throat feel scratchy or causes a burning sensation," says Bruce Fife, ND, who has written several books about coconut oil. "The catch in the throat is a sign of poor quality. Some of these oils have a roasted or smoky flavor and aroma, which is another indication of poor quality, as it comes from smoke that contaminates the oil during heat processing."

The only exceptions to the 76-degree rule are hydrogenated and fractionated coconut oils.

Hydrogenated coconut oil, which is solid at room temperature and melts at 92° F, is sold as a soap ingredient and as a food – but because it contains harmful trans-fats, we don't recommend it for you or your dog. A 1954 study in which hydrogenated coconut oil raised the cholesterol of laboratory rabbits set the stage for coconut oil's removal from America's food supply. All research suggesting that coconut oil is harmful to health was conducted using hydrogenated oil, while studies conducted with nonhydrogenated coconut oil show that coconut oil protects the heart and improves overall health (see "Resources and Recommended Reading," page 15).

There are dozens of products on the market, but look for unrefined oil at your health food store. We like to see oils packaged in glass jars (rather than plastic containers). The really good stuff is expensive, but its benefits are worth the money.

Fractionated coconut oil, also known as caprylic/capric triglyceride, is a popular massage oil and aromatherapy ingredient because it remains liquid at temperatures far below 75° F. To make it, coconut oil is heated and the top liquid fraction removed, purifying the oil by removing molds, fungus spores, and pesticide residues. Fractionated coconut oil is sold as a cosmetic ingredient.

Medium-chain fatty acids

Most of coconut oil's health benefits come from medium-chain fatty acids (MCFAs), also known as medium-chain triglycerides (MCTs). According to former University of Maryland biochemist and dietary fats researcher Mary Enig, PhD, "The lauric acid in coconut oil is used by the body to make the same disease-fighting fatty acid derivative monolaurin that babies make from the lauric acid they get from their mothers' milk. The monoglyceride monolaurin is the substance that keeps infants from getting viral, bacterial, or protozoal infections."

Coconut oil's capric and caprylic acid have similar properties and are best known for their antifungal effects. Like lauric acid, capric acid helps balance insulin levels.

In addition to protecting the body against infection, medium-chain fatty acids are efficiently metabolized to provide an immediate source of fuel and energy, enhancing athletic performance and aiding weight loss. In fact, several coconut diet books are now in print.

"The energy boost you get from coconut oil is not like the kick you get from caffeine," says Dr. Fife. "It gently elevates the metabolism, provides a higher level of energy and vitality, protects you from illness, and speeds healing. In dogs, the medium-chain fatty acids in coconut oil balance the thyroid, helping overweight dogs lose weight and helping sedentary dogs feel energetic. As a bonus, coconut oil improves any dog's skin and coat, improves digestion, and reduces allergic reactions."

During the last few decades, extensive research on medium-chain fatty acids has documented their health benefits, and many supplements and health foods contain MCFAs or MCTs. You'll find them listed that way on their labels – but their source, which isn't listed, is always coconut oil. "We've become so phobic about coconut oil," says Dr. Fife, "that manufacturers who appreciate its benefits have been smuggling it into all kinds of products. Start reading labels and you'll be surprised at all the MCFAs

and MCTs. Those abbreviations always mean coconut oil."

Dosing dogs

No one has tested coconut oil's effect on dogs in clinical trials, but the anecdotal evidence is impressive. Reports published on Internet forums describe how overweight dogs become lean and energetic soon after they begin eating coconut oil, or their shabby-looking coats become sleek and glossy, and dogs with arthritis or ligament problems grow stronger and more lively. Even some serious diseases have responded. In one case, a Doberman Pinscher with severe Wobblers made a dramatic recovery in less than a week while taking coconut oil.

Other reports involve itchy skin, cuts, wounds, and ear problems. Dogs with flea allergies, contact dermatitis, or other allergic reactions typically stop scratching soon after coconut oil is added to their food, and dogs treated topically for bites, stings, ear mites, ear infections, cuts, or wounds recover quickly. One dog was stung by a bee, causing her mouth to swell. An hour after her owner applied coconut oil to the sting and gave her a tablespoon to swallow, the swelling disappeared and the dog was herself again.

Smell you later!

The most enthusiastic reports describe coconut oil's deodorizing effects.

Bob Ansley in Shallotte, North Carolina, started feeding his "incredibly smelly" black Lab, Smokey Joe, the coconut oil he drains from his wok after frying eggs, sausages, and other foods.

"Joe's coat shined up," says Ansley, "but the real surprise was that he stopped stinking. He has always smelled really bad, and bathing was a waste of time. For years when I petted him, I had to hold my hands away from my clothes and go wash my hands soon and thoroughly. My wife and kids wouldn't touch him. Now I can pet him and rub him like he craves without having to run and wash up. The stench is gone and we didn't even change his bedding. I'm pretty amazed. The cure was cheap, too!"

In the months since he started giving Smokey Joe his leftover coconut oil, Ansley has often skipped a few days. As soon as he does, the odor comes back – and as soon as he resumes feeding coconut oil, the odor disappears.

Pam Gillmore of Austin, Texas, is a raw foods chef who teaches healthful food preparation. "I don't have a dog of my own because I travel so much," Gillmore says, "but all my friends have dogs. I sell a high-quality organic raw virgin coconut oil from Mexico that has produced super results in people, and they're always asking me how to help their dogs, cats, or other animals. Coconut oil has done wonders with all of them, especially dogs."

One good candidate for supplementation is the thick-coated dog who is often greasy or smelly. Many of these "stinkers" have freshened up when receiving a little coconut oil daily. Just start out with a low dosage (perhaps just a dab) and increase slowly.

Gillmore also reports that dogs who receive coconut oil stop itching and scratching and their skin clears up. "Their coats really shine after they have been on it for a while. Skin tags and moles disappear after a month or two. Their digestion improves. And they don't have a doggie odor – the coconut oil even takes away bad breath."

Gillmore suggests that the best way to give coconut oil is in small doses throughout the day, "a spoonful here or there depending on the dog's weight." She also says that she has not yet met a dog who does not like the oil – "They usually lap it right up," she says. "Some folks fry eggs in it and make a little extra for their dogs, or they put some in leftover oatmeal or add it to the dog's dinner, but many give it straight off the spoon."

Gillmore concludes, "I can't say enough about how coconut oil helps animals. During the last eight years, I've seen over a hundred dogs improve in all kinds of ways because of coconut oil. I've even had people give it to their pet snakes and birds!"

Oil tell you a story

Bruce Fife has collected coconut oil stories for years, and one of his favorites, mentioned in his new book, *Coconut Cures,* is from a man whose dog developed a lump next to her eye.

"The veterinarian said it looked like a tumor," the owner reported, "and he recommended immediate surgery. I figured that if coconut oil is good for humans, it should be good for animals as well, so I began applying it to the lump on my dog's forehead. As time passed, the lump grew smaller and smaller and eventually disappeared. It never returned. We avoided the surgery.

"Some time later my other dog developed sores just above his upper lip. The vet gave him an antibiotic, but it didn't seem to do any good. After a week I stopped the medication and began applying coconut oil to the sores. They got worse for a few days and then began to heal. He recovered without a problem."

How to administer

For convenient application, store coconut oil in both a glass eyedropper bottle and a small jar. During cold weather, these containers are easy to warm in hot water so that the oil quickly melts.

Use the eyedropper to apply coconut oil to ears, cuts, wounds, mouth sores, and other targeted areas, including your dog's toothbrush.

Use the small jar to apply coconut oil to

larger areas, such as cracked paw pads. Coconut oil is not fast-drying, so use a towel or tissue to remove excess oil as needed. The main challenge with coconut oil's topical application is that dogs love the taste and immediately lick it off. To give coconut oil a chance to disinfect wounds and speed healing, cover the wound with a towel for a few minutes, or distract the dog long enough for at least some of the oil to be absorbed.

Coconut oil is also an excellent massage oil and carrier oil for use with medicinal herbs and aromatherapy. Any of the essential oils mentioned in "Essential Information" (January 2005) can be diluted in coconut oil for safe, effective canine application, and coconut oil is a perfect base for the herbal salves and oils described in "Savvy Salves" (August 2005).

In addition to lubricating the skin and joints, coconut oil acts as a natural preservative, is exceptionally stable, has a long shelf life, does not require refrigeration, and is such a powerful disinfectant that it reduces the need for germ-killing essential oils in aromatherapy blends designed to fight infection.

Important to start slooooow

Solid or liquid coconut oil can be added to food at any meal or given between meals. The optimum dose for dogs is about 1 teaspoon per 10 pounds of body weight daily, or 1 tablespoon per 30 pounds. These are general guidelines, as some dogs need less and others more.

But don't start with these amounts. Instead, introduce coconut oil a little at a time in divided doses. Because coconut oil kills harmful bacteria, viruses, parasites, yeasts, and fungi, the burden of removing dead organisms can trigger symptoms of detoxification. Headaches, fatigue, diarrhea, and flu-like symptoms are common in humans who consume too much too fast, and similar symptoms can occur in dogs.

Even in healthy dogs, large amounts of coconut oil can cause diarrhea or greasy stools while the body adjusts. Start with small amounts, such as ¼ teaspoon per day for small dogs or puppies and 1 teaspoon for large dogs. Gradually increase the amount every few days. If your dog seems tired or uncomfortable or has diarrhea, reduce the amount temporarily.

Coconut oil isn't the only coconut product that's good for dogs. Fresh or dried coconut is an excellent source of dietary fiber, and dogs enjoy and benefit from the same coconut flakes, coconut flour, coconut cream, coconut milk, shredded coconut, and coconut spreads used by their human companions. Just be sure the products are unsweetened and free from chemical preservatives. 🐾

Freelance writer and book author CJ Puotinen, her husband, black Labrador retriever, and red tabby cat have all sampled and enjoyed more than 20 brands of coconut oil from around the world.

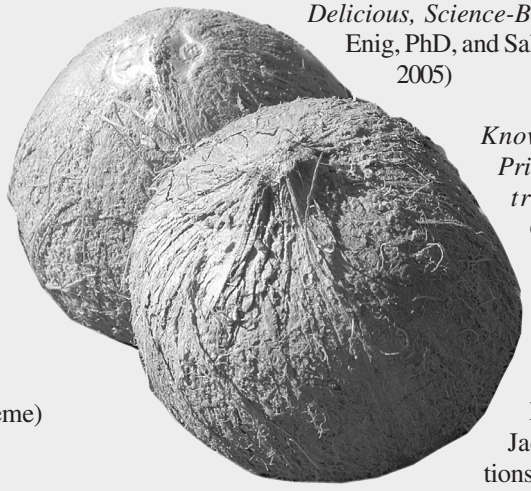
Resources and Recommended Reading

For information about coconut's health benefits, scientific research, online newsletters, and coconut oil forums, visit:

- coconut-connections.com
- coconut-info.com
- coconutoil.com
- coconut-oil-uk.com
- coconutresearchcenter.org (Bruce Fife, ND)
- lauric.org (Mary Enig, PhD)
- mercola.com
- westonaprice.org (Mary Enig, PhD)

The following companies distribute coconut oil and other coconut products by mail or in retail stores. Some offer free or inexpensive samples for tasting. See the following Web sites for manufacturing information, prices, and availability.

- bodyfriendlyprovisions.com (Pam Gillmore, Body Friendly Provisions)
- coconutoil-online.com (Coconut Oil Supreme)
- essentialoil.com (Jamaican Gold)
- gardenoflife.com (Garden of Life)
- jarrow.com (Jarrow Formulas)
- nutiva.com (Nutiva)
- omeganutrition.com (Omega Nutrition)
- pureplanet.com (Pure Planet)
- rawfoods.com (Nature's First Law)
- simplycoconut.com (Aloha Nu)
- tropicaltraditions.com (Tropical Traditions)
- virgincoconutoil.com (Virgin Oil de Coco-Creme)
- wildernessfamilynaturals.com (Wilderness Family Naturals)



RECOMMENDED READING

Coconut Cures: Preventing and Treating Common Health Problems with Coconut, by Bruce Fife, ND (Piccadilly Books, 2005)

The Coconut Diet: The Secret Ingredient That Helps You Lose Weight While Eating Your Favorite Foods, by Cherie Calbom (Warner Books, 2005)

The Coconut Oil Miracle, by Bruce Fife, ND (Avery/Penguin, 2004)

Eat Fat, Look Thin: A Safe and Natural Way to Lose Weight Permanently, by Bruce Fife, ND (Piccadilly Books, 2005)

Eat Fat, Lose Fat: Lose Weight and Feel Great with Three Delicious, Science-Based Coconut Diets, by Mary Enig, PhD, and Sally Fallon (Hudson Street Press, 2005)

Know Your Fats: The Complete Primer for Understanding the Nutrition of Fats, Oils, and Cholesterol, by Mary G. Enig, PhD (Bethesda Press, 2000)

Virgin Coconut Oil: How It Has Changed People's Lives, and How It Can Change Yours, by Brian and Marianita Jader Shilhavy (Tropical Traditions, 2004)

The Power of Intuition

Insight and communication with your vet could save your dog's life.

BY BLISS FOSTER

Have you ever known exactly what your dog wanted or needed by simply looking into his or her sweet brown eyes? Most of us have experienced this with our dogs. An owner's insight regarding whether a dog would rather play tug or eat an early dinner may seem relatively unimportant in the greater scheme of things. But for many of us who have a close relationship with our dogs, we may have experienced that intuition on a much deeper level. We can tell, for instance, when our pooch is having an off-day or isn't feeling well, even if the outward signs might not be visible to anyone else.

Intuition is defined as "quick and ready insight," and "the power or faculty of attaining to direct knowledge or cognition without evident rational thought and inference." In other words, you just know. And one of the most important times an owner can utilize intuition on behalf of a pet is at the veterinarian's office.

According to New Hampshire veterinarian Myrna Milani, an expert in animal ethology who has authored books on the human-animal bond, we are the most important advocates our dogs have when it comes to health. Dr. Milani believes if an owner has intuitive feelings about a pet's condition and trusts those feelings, it is crucial to act upon them. "It's coming from a different place," she says.

Acting on those feelings may simply be a matter of solid communication skills between an owner and a veterinarian. You should count your lucky stars if you have found a veterinarian who truly listens and considers your observations concerning your dog's physical symptoms, as well as any suspicions or insight about what's going on. If a pet is ill, there is no greater gift.

Sometimes, though, unanticipated action on an owner's part may be necessary – like knowing when to ask about other options if a course of treatment does not seem effective. An owner may also be placed in the position of having to ask the *right* questions or to expound on the background information that has led up to a pet's health problem.

If communication between an owner and veterinarian breaks down in part or whole, then being true to intuitive feelings may mean seeking a second or even third opinion. "People need to think more about what they feel is best for their animals," says Dr. Milani.

Act while you can

It's important to take action when you get a feeling that you should; no one benefits from learning too late that they should have followed their instincts, whether it was to get another opinion or demand a certain test or diagnostic procedure.

This was the sad lesson learned last spring by Martha Turner of North Richland Hills, Texas. Turner decided to spay Blaze, her five-year-old, AKC conformation champion Rottweiler, after Blaze had produced a litter of beautiful puppies in 2003. Turner felt that one litter was enough, and wanted to eliminate the possibility of certain cancer risks in Blaze's future.

Blaze's pre-op blood work was fine. Her spay surgery was performed on a Friday by a vet Turner had known for more than 10 years. Turner picked Blaze up from the vet after work, and settled the dog in for a quiet recovery at home.

The Whole Dog Journal™

WHAT YOU CAN DO . . .

- **Listen to your intuition in regard to your dog. If you think he's not looking or acting "right," it's worth an investigation at a veterinarian's office.**
- **If your veterinarian's diagnosis or recommended treatment seems "off," seek another expert opinion. You don't need to find one that agrees with yours, just one that feels right.**

Blaze, a five-year-old Rottweiler, died from complications following spay surgery a few months after this photo was taken. Her owner thought that the dog's breathing sounded bad following the surgery, but deferred to her vet's expertise.

Late Sunday morning, Turner contacted the vet's office asking about getting pain medication; Blaze was trembling and seemed very uncomfortable. Per the vet's instructions, she gave Blaze aspirin and watched her for the remainder of the day. This seemed to help. By Sunday night, though, she was trembling again and Turner detected shortness in Blaze's breathing.

On Monday, Turner took Blaze back to the clinic. More blood tests were run, which appeared to be normal. Blaze was prescribed an antibiotic and Turner took her back home. By Monday night, Turner heard "what sounded like fluid" as Blaze breathed. She told the vet the next morning.

Over the course of that week, Turner took Blaze into the vet's office a total of four times. Blaze had developed a fever, which would spike at night, and her appetite was decreasing. Turner says that Blaze's blood work was also checked a second time that week, which showed that her liver enzymes were slightly elevated.

By Thursday night of that same week, Blaze's fever was 105 degrees. "She was stretching her neck out and holding her head up in a way I had never seen before. I didn't realize it then, but looking back on it, I think she was trying to breathe more deeply," Turner says.

On both Tuesday and Thursday of that week, Turner says she asked the vet for a chest X-ray because she continued to hear a fluid-like noise as Blaze breathed. That Friday, the vet took one. On the X-ray, Turner says, it looked as though one of Blaze's lungs had collapsed. The other lung appeared to contain fluid. It also looked as if Blaze's heart may have been enlarged.

On Friday afternoon, Turner put Blaze in the car and drove her to a university hospital a couple of hours away. A cardiologist ran an echocardiogram. Blaze's heart was not enlarged, but her blood oxygen level was 77 percent, well below the desirable range of 90-100 percent. The doctor there prescribed two different antibiotics for Blaze and placed her in the ICU respiratory unit. Despite these efforts, Blaze died at 3 pm on Sunday.

Shocked and understandably upset, Turner asked for a necropsy. The report's interpretive diagnosis and summary revealed that Blaze had "severe acute fibrinosuppurative pneumonia" in all sections of lung examined. The diffuse nature of the inflammation was suggestive of ARDS (Acute Respiratory Syndrome), which ultimately caused acute respiratory arrest.

If she had it to do over again, Blaze's owner would have demanded a chest X-ray as soon as she thought she detected signs that Blaze wasn't breathing right.

Blaze's vet at the university described ARDS as a disease that causes fluid to leak into the airways. It is often secondary to an underlying problem such as pneumonia.

It is Turner's opinion that if a chest X-ray had been taken earlier that week, as she had requested, it may have increased Blaze's chances of survival. "If there is anything I can say after going through this experience, it's to take your pet somewhere else if you have any doubts," says Turner. "Don't get in a comfort zone."

Becoming a health advocate for your dog

There are many ways to become better advocates for our dogs' health, many of them communication-based. According to Dr. Milani, the ideal human-companion animal relationship is similar to that between a mature parent of the pets' species and the offspring. "Animal parents initiate interactions rather than react to their offspring, and good advocates for their pets initiate rather than react, too."

Working out a comprehensive approach to managing your pet's health is key to Dr. Milani's philosophy. She says there are several things an owner can do when visiting the vet's office.

The first is to write out any questions you have for the veterinarian and leave space on your notepad so you can write down the answers. Or, better yet, explain to your vet your reasons for documenting your communication, and tape record the conversation. Your notes or tape will serve as a reminder later, when trying to recall what the vet suggested and why.

Another idea is to take a friend along on vet visits. This is like taking "a second pair of ears," says Dr. Milani, and it may instill confidence in owners who otherwise might be hesitant to ask questions about a veterinarian's suggestions.

A third idea is to utilize visualization. We've all heard about instances in which athletes who visualize their game improve scores, sometimes as much as those who practice every day. Dr. Milani thinks visualization is especially helpful in a communication scenario where an owner is intimidated by an expert.

Dr. Milani says that people often take one of two approaches. "One group takes an optimistic approach and repeatedly visualizes themselves and the expert having a meaningful exchange under the very best of circumstances. The second group takes a more pessimistic approach that involves visualizing getting the necessary information from the expert under the worst circumstances," she says. An example could be that your vet is using textbook terminology that is over your head, or discussing a procedure that you've had a negative experience with in the past.

The owner utilizing the pessimistic approach, Dr. Milani believes, is likely to be prepared for both the worst and best case scenarios when visiting the vet's office. In either case, though, by repeatedly visualizing a mental image of the exchange with the vet before the appointment, Dr. Milani thinks an owner is more likely to remain focused on the goal of acquiring the information necessary to make an informed decision.

For *non-emergency* health situations, Dr. Milani says the owner always has an option to delay commitment to any program if unsure whether it meets the needs of both the owner and the pet. "The majority of medical and behavioral problems that befall our pets did not happen overnight and delaying treatment for a few hours won't make any difference," says Dr. Milani. She adds that sometimes professionals and owners want to commit to a treatment program quickly so that the problem can be resolved as soon as possible. "If you're not sure about a decision, don't be rushed," she says. "Take your time and do it right."

Another opinion

If these suggestions fail, it's probably time to get another opinion. In my case, I had to go the extra mile of visiting three different vets, before I found who I believed would best benefit my dog, Guinevere, when she had a health crisis *(see sidebar, next page).*

Dr. Milani acknowledges that moving on

is not easy when owners have long-standing relationships with their veterinarians. "You may not want to alienate or offend them. It's hard. But the question we have to ask is 'Who is the ultimate authority on my dog?'"

Even when an additional veterinary opinion is sought and utilized, there are no guarantees regarding the outcome. It's possible that no matter what you do, the situation could turn out adversely, as it did with Blaze. Then again, everything could turn out perfectly or somewhere in between. In any event, even if things go badly, it's easier to live with the notion that you did everything that *could* be done.

Bliss Foster is a freelance writer, attorney, and animal welfare activist who lives near Houston. She is also a council member of the State Bar of Texas Animal Law Section.

Persistence Can Pay: The Author's Personal Experience

One night in September of 2000, my two-year-old Shih Tzu, Guinevere, began walking in an exaggerated manner, high-stepping with her rear legs. She had never done this in the past, so I was definitely concerned. I decided to watch her closely and take her into the vet early the next day.

The summer had been tough for Guinevere. A few months earlier she had undergone an endoscopy procedure by a specialist in Houston to investigate the cause of her chronic gastric reflux. The specialist prescribed an antacid and an antibiotic, and we began the frustrating process of testing various elimination diets for food allergies.

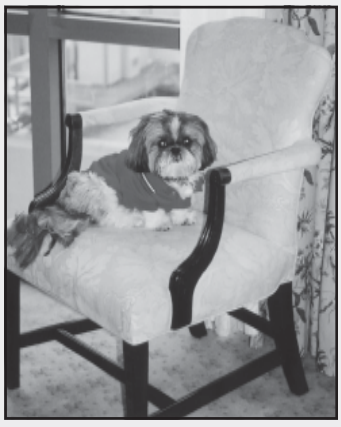
Since that time she had been on, off, and back on the antibiotic, and had suffered many sleepless and painful nights with episodes of reflux. The thought of an additional problem was very upsetting to me.

The morning after the high-stepping incident, she was lethargic and wouldn't urinate. She had no appetite and vomited several times.

I took the first appointment at our vet's office. I reviewed Guinevere's medical history with the doctor on duty and discussed the fact that she was taking an antibiotic and an antacid. The vet examined Guinevere. I remember her exact words when she watched her struggle to walk: "How bizarre." This did little to relieve my anxiety, so I asked about seeing a specialist. She immediately called the specialist clinic that had performed the endoscopy on Guinevere months before. We took an appointment that afternoon.

A specialist I had never met before examined Guinevere. Again, we discussed her situation extensively. The doctor took X-rays and palpated Guinevere's hip area. She didn't appear to be in any sort of pain.

I specifically asked the doctor whether the antacid or the antibiotic we were giving Guinevere had any side effects. She was quick to dismiss the medication as a potential cause and told me to continue giving the medication to Guinevere. She also said that Guinevere should be confined to her crate for a week of rest. The specialist thought Guinevere's hip conformation was the problem, and the odd gait was unrelated to Guinevere's other problems. She explained that Guinevere would, more than likely, need hip surgery if the crate rest failed to help.



Guinevere was saved from a completely unnecessary hip surgery by a second opinion.

I had an instantaneous gut feeling that told me that her theory was wrong, wrong to such a degree that further communication would be a complete waste of time. As I was driving home, my logic kicked in to support this feeling. I thought that she had disregarded the medication as a possible culprit far too quickly. I didn't have a clue as to whether Guinevere's medication could cause a problem or not, but thought it should, at the very least, be factored into the equation.

Also, the fact that no vet in the past had ever mentioned a problem with Guinevere's conformation (and we had seen many vets!), only increased my suspicion about the specialist's diagnosis. I had never observed a single situation where Guinevere appeared to be sensitive with regard to her hip area.

In addition, I didn't feel like the specialist considered Guinevere's other symptoms. Her GI disease had drastically improved, and I just didn't believe the vomiting was coincidental to a hip problem. It didn't add up. At that point, all I knew was that I had the very frustrating task of trying to figure out what to do when you disagree with the specialist.

I took Guinevere home and confined her in the crate anyway, just in case. Within a few hours, her symptoms grew worse. She would try to stand up, but would collapse instead. I was panicky, but didn't know what to do.

That evening, I decided to call the veterinary university hospital Guinevere had visited when we were initially trying to assess her GI problems. A very special fourth-year vet student listened patiently to every word I said about Guinevere's symptoms, including my thoughts on her predicament. She told me to bring Guinevere right over to the university clinic.

We arrived about 10:30 that night. The intern on duty phoned the veterinary neurologist who ordered one test and took Guinevere off the antibiotic. They told me that high-stepping was a known neurological side effect of that particular drug, but they wanted to rule out one other possibility via the test. My fears were being replaced with hope. I was asked to leave Guinevere overnight for observation and call back first thing the next morning.

I did. She was fine. Her problems were related to the medicine and the bizarre signs of imbalance and gait problems ceased soon after the medication was stopped.

I felt relieved and lucky that she was going to be okay and that I had chosen to ignore the advice of the first specialist – that I never considered hip surgery for Guinevere. My beloved dog could have undergone an unnecessary and risky procedure for no reason at all. If she had, who knows what long-term ramifications that could have held for her?

Joint Venture

Protect your young or adult dog's joint health to enhance his old age.

BY RANDY KIDD, DVM, PHD

Western medicine's mechanistic theory regards the body's joints simply as the anatomic sites where the lever action of bones enables body movement. However, joints are much more complex than this, anatomically, mechanistically, and functionally. And when disease exists within any joint, the result can be completely disabling – not only to the local area but also to the entire body.

If we view joints as another of the body's organ systems with a multitude of functions, we will have a better chance to see their importance in the holistic balance of the animal's overall well-being.

For starters, it is important to appreciate that joints would have no function at all without their supporting cast of surrounding muscles, ligaments, tendons, nerves, shock absorbers (spinal discs and joint meniscuses), and lubricant-producing synovial membrane. Further, a joint's functional surfaces are poorly supplied with blood and lymph vessels, and they are isolated from other tissues by means of a sturdy joint capsule – this lack of circulation and isolation makes healing of any disease process within joints much more difficult.

A short list of some of the functions of joints (in addition to their mechanical function as motion-producing levers) includes:

■ **Stability.** Joint-stabilizing structures surrounding the joints include ligaments (fibrous tissues that join from bone to bone), tendons (fibrous cord-like extensions of muscles that attach the muscles to bones), and muscles. Dogs with a fit and healthy muscle mass surrounding the hips are best-protected against developing hip dysplasia.

■ **Proprioception.** The ligaments, tendons, and especially the small muscles surrounding the joints are rich in proprioceptive nerve endings – nerves that relay to the dog's brain the position of all its body parts at any one time. Proprioceptive information is vital for body balance, especially when the dog is moving.

■ **Lubrication.** Synovial membranes (the inner lining of the joint capsule) produce a slippery substance that acts as lubrication so that joint surfaces can move freely against each other.

■ **Shock absorption.** Bone ends are composed of soft, cartilaginous tissue that acts as a shock absorber for moving and weight-bearing bones. In addition, some joints have additional padding – examples include the discs between the vertebrae of the spine and the meniscus of the knee (the knee's meniscus is a crescent-shaped fibrocartilaginous pad located within the joint). The "shock" of lateral and rotational motions is held in check by the joint's surrounding tissues: muscles, tendons, and ligaments.

■ **Spring action.** Tensions on ligaments and tendons create within the joint a spring-like action, in a mechanical fashion much like the tightening and loosening of a rubber band. In addition, the anatomical setup of the joint itself may be spring-like, offering protection during compression and extra oomph during its expansion phase. (Think of the hock here, with its amazing ability to compress down and then spring apart when the dog leaps.)

■ **Whole-body flexibility.** Joints are, of course, responsible for the body's flexibility, but it is important that this flexibility is actively and persistently utilized through movement (exercise) and that it is maintained in balance.

■ **Structural realignment.** Joints are the primary sites for structural realignment of the skeleton's supporting structure. Chronic trauma or excess structural pressures (from anatomically mal-aligned bones) start a process of inflammation and new bone growth, which ultimately creates an increased amount of bony tissue along the side of the joint that is responding to the

The term "arthritis" is frequently used informally to describe any old, stiff dog. There are actually more than 100 diseases and conditions that affect joints, the tissues that surround the joint, and other joint-related connective tissue.

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WHAT YOU CAN DO . . .

- **Limit the growth rate of large-breed dogs as puppies, with an appropriate diet and limited (never free-fed) rations.**
- **Keep your dog slim and fit with regular exercise to keep joints moving, without undue strain caused by too much weight.**
- **Use a board certified veterinary radiologist for the final evaluation of any candidate for a breeding program, especially for breeds at increased risk for hip dysplasia.**

pressure. This bone growth is often painful and may become so painful as to render the joint unusable.

■ **Pain.** Pain located in the region of the joint may become so severe the animal becomes reluctant to move, and as the joint becomes less and less active, it ultimately may produce enough compensatory bony tissue (exostosis) to completely fuse the area into an immovable joint.

■ **Immune function.** Scientists haven't yet determined the exact extent of the immune function of an animal's joints, but we do know that the joints can be severely affected when the immune system has gone amok – rheumatoid arthritis is our signifier here. It's my guess that as we further evaluate the joints, we will discover their vital role in maintaining a healthy, whole-body immune system – joints are, after all, involved in every body movement (one of the factors that determines life itself), and they are in constant contact with some of the longest-lived tissues in the body (bone).

Joint anatomy

Simply defined, a **joint** is the site where two or more bones articulate with one another, creating a lever that results in motion of the corresponding body parts. There are many ways joints create this articulation, and various classifications of joints result from these differences.

The most common classification corresponds to the structural geometry of the joint. This results in terms such as a "ball and socket" joint (such as the hip) and a "hinge" joint (such as the dog's carpus, similar to the human wrist).

Hinge joints typically move like a door hinge, in one line of direction only. A true ball and socket joint would be able to move in all directions: forward, backward, laterally, medially, and rotationally. However, some ball and socket joints are limited in their totality of movement somewhat by the structures surrounding the joint.

Surrounding structures

Many (but not all) joints are surrounded by a thick and fibrous capsule, which effectively protects the inner workings of the joint and creates a barrier to injury and infections. The joint capsule's inner lining, the **synovial membrane,** produces a thick, gelatinous fluid that acts as lubrication for the joint.

Most of the nutrients needed for the joint and cartilaginous tissues at the ends of bones come from the **synovial fluids** – an important consideration since cartilage and the joint surfaces are poorly supplied by blood vessels. Synovial tissues react to trauma and invading infections; the result is an increased thickness of tissue along with increased production of the components of inflammation. This inflammatory synovial reaction can be assessed via needle biopsy.

Tendons are fibrous extensions of muscles that attach the muscle to bone; when the muscle contracts, it moves its attached bone across the "lever" of the joint. **Ligaments** are attached across the joint, bone to bone; their primary function is to stabilize the joint. Both ligaments and tendons are sturdy structures that, when they are healthy, have enough strength (almost as much as bone itself) to withstand many times the forces that a joint would normally be exposed to. Ligaments and tendons are primarily composed of fibrous and cartilaginous tissues, but both also contain some elastic tissue to allow for a certain amount of stretching.

Joint flexibility must be preserved through regular exercise.

Fascia is a fibrous connective tissue that surrounds tendons and ligaments, dividing larger muscle masses into smaller muscle "bellies." Fascia also protects blood vessels as they course through the muscles. In fact, the contraction and relaxation of the blanket of fascia surrounding blood vessels acts as a secondary blood pump that enhances blood flow through tendons and into joints whenever the dog is active – yet another reason to make sure your dog gets enough exercise.

Muscles that surround the joint are also an important component of stability and proprioception. The more fit the muscles, the more stable the joint. There is some evidence that exercise helps develop proprioceptive nerve centers in the smaller muscles around joints, thus providing fit individuals with a better sense of balance.

Joint function

Proper functioning of the joint depends on several factors, including:

■ Anatomy that creates proper alignment of the joint surfaces – skeletal alignment that allows the joints to move in the direction(s) they were meant to move in

■ Surrounding tissues that provide flexibility as well as stability

■ Articulating surfaces that are relatively smooth and that are lubricated for ease of motion

■ A functioning proprioceptive nervous system that connects the joints to the brain and that relays an accurate positioning of the body parts involved

■ A balanced, whole-body immune system that can maintain an immune response to fend off minor infections or injuries AND can do so without creating an overactive immune response (as seen with rheumatoid arthritis, for example).

Joints and joint surfaces

There have been a lot of recent studies on the physiology of joints, probably because we now recognize that they are a prime site of disease in both dogs and humans. Nearly 70 million people suffer from arthritis or some form of chronic joint pain, and joint conditions – especially chronic conditions – may be the number one disease entity seen by holistic veterinarians.

When joint physiology is good, the smooth surfaces where the bones come into contact with each other articulate with ease and their weight-bearing forces are cushioned on impact. The functional health of joints is achieved by a balance of cartilage regeneration and degeneration, coupled with an adequate production of lubricating substances.

The cartilaginous ends of bones are mostly water (some 65 to 80 percent of the total matrix), with most of the balance of the matrix being a mixture of collagen and proteoglycans. Within the mix are a small number of chondrocytes, the cells responsible for repair and regulation of cartilage tissues.

Collagen is a primary connective tissue that exists in various forms and performs many different functions. It acts like an adhesive or glue-like substance throughout

the body, helps maintain structure, and in cartilage, provides a framework to hold the proteoglycans in place as well as providing elasticity and shock absorbency.

Proteoglycans are complex molecules composed of sugars and proteins. They interlink with collagen fibers, helping to make the cartilage resilient so it can stretch and spring back into place. Proteoglycans also trap water, acting like a sponge, which gives cartilage the flexibility needed for the constant motion of the joint. Proteoglycans link to core proteins to form glycosaminoglycans (GAGs), which are important components used for joint healing.

Any excess demand – in the form of wear and tear, or as a result of infection-induced and/or immune-mediated degenerative processes – can be cause for erosion of the bone's cartilage. Once again, we have created the most common reason for excess wear and tear of the joints; dogs with skeletal structures that are unnatural for the species are certain to be more susceptible to abnormal wear and tear of their joints.

Excess joint erosion precipitates an inflammatory response, resulting in synovial membrane thickening and the release of white blood cells and other products of inflammation. As the erosion of the cartilage proceeds, the joint surface becomes rough and eventually the animal may begin to experience pain. Further erosion may remove the protective layer of cartilage, leaving bone to rub against bone.

The body's healing mechanisms interpret bone against bone as excess structural stress, and the body responds by producing more bone to counter the stress. This "new" bone often forms as disorganized clumps of bony tissue (exostoses) surrounding the joint, and these bony proliferations cause more pain (and more inflammation) as tender tissues rub against them. Without something to halt the process, it becomes ongoing, chronic, and progressively worse.

Repair of damaged joint tissue *can* begin after the inciting cause has been eliminated or removed. Then, the few chondrocytes located in the bone ends can begin to (slowly) add new cartilaginous tissue. The key component to the synthesis of new cartilaginous tissue is the production of glycosaminoglycans (GAGs), for which glucosamine is the basic building block.

Tendons and ligaments

Tendons are the cord-like extensions of muscles that attach muscles to bones. It is through this attachment that the tendons move adjacent bones. This levering action depends on the tendon's ability to slip and slide – an ability made possible by a slippery-surfaced sheath that surrounds the tendon. The tendon sheath is kept functional by a constantly balanced process of new tissue growth and tissue degradation, with the new tissues always being aligned with the tendon's need to be slippery.

Here's the rub: If a tendon is severely damaged, the body tries to repair it by forming a scar, and the scar's only purpose is to reunite damaged ends of the tear. As the torn tendon heals, the scar will likely fuse the ends without returning the normally slippery function of the tendon.

There are several surgical methods to help maintain normal tendon function, but the caveat is that the surgical attempts must be done immediately (within hours) and that the surgeon be proficient in joint repair. The need for super precise joint movements is generally not so great in dogs as it is in humans (especially in human fingers), and adequate function can usually be retained after "normal" surgical procedures.

Tendon repair takes about six weeks. During the first three weeks the opposing ends of the tendon need to be kept immobile; during the next three weeks the tendon needs to have some movement (through less vigorous external splinting) to allow for remodeling that will (we hope) include the addition of a tendon sheath to provide for slippage. *Complete* healing may take more than a year, and the completely healed tendon will likely be only 90 percent as strong as it was originally.

Ligament healing is not predictable; some heal, seemingly spontaneously; others are almost impossible to repair, even with the best of surgical techniques. For these problem ligaments, techniques have been developed to use transplanted fibrous tissues to repair the damage.

Another potential problem arises when bone fragments or particles of cartilage flake off from areas of joint inflammation, and they become abrasive "floaters" that add to a joint's pain and inflammatory process. Usually, the only cure for these floaters is to have them surgically removed.

Whenever you suspect severe trauma to a joint – for example, when your dog experiences a sudden onset of limping, exhibits obvious pain when moving, or refuses to walk, climb stairs, jump up on or down from furniture, or rise from a sleeping position – see a vet as soon as possible, and consider getting a second opinion from a board certified veterinary surgeon.

Diseases of joints and surrounding tissues

■ **Osteochondrosis** is a disturbance in the formation of normal cartilaginous tissue; it's considered a congenital or inherited disease. Immature articular cartilage separates from the underlying bone and floats free in the joint cavity, causing pain, inflammation, and eventually excess bone growth within and around the joint. The disease may affect the shoulder, elbow, stifle, or hock joints.

Osteochondrosis typically develops in large breed dogs, and the lesions occur during the maximal growth phase of the skeleton – when the dog is four to eight months of age. Limiting the growth phase of large breed dogs may help prevent the disease. Floating bits of cartilage (also called "joint mice") need to be removed surgically, and joint fluid modifiers such as glucosamine may also help with repair and prevent further damage to the articular surfaces. Acupuncture may also speed healing. Prognosis for recovery is excellent for shoulders, good for the stifle, and fair for the elbow and tarsal (hock) joints.

■ **Elbow dysplasia** is a generalized term that describes several entities, all of which result in abnormal elbow joint function (some of which seem to be genetic). Elbow problems typically develop in young, large, rapidly growing dogs – affected animals demonstrate abnormal bone growth, joint stresses, or cartilage development. The joint is painful, causing the dog to limp, and radiographs are often needed to confirm the various conditions. Treatment is the same as for osteochondrosis, discussed above.

■ **Hip dysplasia** may be the biggest joint problem to confront dog owners and breeders in this country. This multifactorial disease affects a high number of dogs, and we don't yet have a good handle on what causes it, nor what is an effective cure. Further, there is a definite genetic component to hip dysplasia, but the genetics aren't clear-cut. Some dogs that aren't supposed to be affected (according to statistical probability) are, and visa versa.

While hip dysplasia is far too vast a topic to cover in this article, the following observations may be helpful.

Excessive growth, exercise, nutrition, and hereditary factors all affect the occurrence

of the disease. Dogs who grow too rapidly for the amount of muscle mass surrounding their hip joints are more prone to joint laxity, which in turn allows for excess movement within the joint. As the joint becomes increasingly unstable, its excessive movements lead to inflammation and ultimately degenerative joint changes – fibrosis, bony growths around the joint, flattening of the femoral head and the acetabulum (the socket joint of the hip that the "ball" of the femoral head fits into), and possibly subluxation or luxation of the femoral head.

The changes of hip dysplasia tend to be progressive; however, dogs do not always have symptoms that correspond to the severity of the changes evident on radiographs. Some dogs are practically immobile with only slight changes; others might have severe changes but appear symptom-free. Dogs with symptoms have varying degrees of lameness that tend to get worse with exercise. The first sign of hip dysplasia is often a dog's reluctance to climb stairs or difficultly when getting up or lying down. Some dogs with hip dysplasia may exhibit a rabbit-like, hopping gait when running.

Radiographs help determine the amount of physical damage to the joint, but don't always correlate with the dog's symptoms.

Prevention efforts are primarily aimed toward identifying potentially affected individuals (with screening X-rays and palpation) and removing them from the breeding pool. There is new interest in the potential of gene mapping. Each of the methods has its own strengths and shortcomings. Look for a board certified veterinary radiologist to do any final evaluations.

Conventional treatments include pain relief and various forms of surgery. I've found alternative medicines to be especially helpful for hip dysplasia; I use a combination of acupuncture and chiropractic along with nutritional and nutriceutical remedies and possibly herbal support.

Chiropractic moves a joint through its full and normal range of motion, helping it to return to its normal function.

Dr. Kidd's Approach to Joint Problems

1. Chiropractic adjustments for all animals.

2. Possibly acupuncture if indicated.

3. Massage and/or physical therapy as follow up to chiropractic and acupuncture, if necessary.

4. Nutriceuticals and nutrient support for all cases – the kind and amounts depending on the individual case. Choose those that support joint healing and balance of the immune system as well as those that offer pain relief.

5. Pain relief when indicated. Remember that some nutriceuticals, nutrients, and herbs offer pain relief – without the extreme risk of adverse side effects contained in most commercially available pain relievers.

6. Immune system support, especially for immune mediated diseases such as rheumatoid arthritis. (Note that I recommend supporting the immune system rather than attempting to shut it down, which is the Western medicine approach that uses corticosteroids as a treatment.)

7. Herbal and other natural remedies may be helpful to add more pain relief, for immune system support, and for specific joint problems.

8. If all else fails (and I've certainly had cases where all my magic has failed), resort to conventional therapies. Remember that surgery may be the initial treatment of choice for certain joint diseases: tendon or ligament damage, removal of joint "floaters,, and certainly for repairing fractures that involve the joints. And, almost never, but they may be indicated in rare cases: short-term corticosteroid therapy to counteract an overactive immune system.

■ **Septic** or **infectious arthritis** can be from penetrating trauma (including surgery) or from a spread of infection from other parts of the body. Pain and swelling are common symptoms of infected joints. A needle biopsy of the joint may reveal increased numbers of white blood cells and possibly the instigating microorganism; X-rays may indicate inflammatory response and/or bony changes.

Due to the lack of an abundant blood supply to the area, joint infections often require high doses of the specific antibiotic indicated for the microorganism involved.

■ **Immune-mediated arthritis** is the consequence of secondary deposits of immune complexes within joints, usually affecting all the joints of the body. These immune complexes cause an inflammatory response that may erode the joint surface **(rheumatoid arthritis)** or be nonerosive as with **systemic lupus erythematosus** (SLE). Joints swell and are painful, the dog becomes lame, and he may run a fever and refuse to move or eat.

Treatments are aimed at eliminating the pain and rebalancing the immune system. The immune-mediated diseases are another area where I've had especially good results using alternative medicines. Most of the alternative approaches (especially acupuncture, homeopathy, and herbal remedies) can help balance the immune system while the remedies are being directed toward specific areas of disease.

■ **Neoplastic arthritis** is rare – fortunately, because it tends to be an aggressive neoplasia; the usual recommendation is to amputate the limb.

■ **Trauma to joints** is not uncommon. It may present itself in several ways:

Joint fractures may occur in any joint, but they are most common in immature animals. They typically occur within the joint, at the growth plate (physis) of the bone, which is its weakest point. The goal for treating a joint fracture is to bring the fractured ends back together and to hold them there until healing takes place.

Ligament tears and ruptures are also common. Pain and swelling are evident, and the intensity of the symptoms depends on the extent of the tear.

The anterior/cranial and posterior/caudal cruciate ligaments help stabilize the knee joint by crossing from lateral to medial (thus the term "cruciate") and spanning across the joint from the femur to the tibia. **Rupture of the anterior cruciate ligament** is a fairly common occurrence. It is caused by excessive trauma, weakened ligaments from immune-mediated causes, and/or poor conformation (straight-legged dogs).

Diagnosis of a cruciate ligament is made through palpation (to discern the amount of abnormal movement of the knee) and x-rays. Some dogs recover without any treatment; others respond to weight reduction, immobilization of the joint, acupuncture, and physical therapy; still others will require surgical repair. Surgery typically grafts a tendon from another part of the dog's body to act as a replacement for the one torn.

■ Traumatic dislocation of the hip, or **hip luxation,** is often the result of being hit by a car. It results in lameness, pain when the leg is manipulated, and a shortened affected limb. Treatment either involves nonsurgical manipulation of the limb to reposition it, followed by the use of slings to maintain it in the joint, or surgical stabilization using pins or sutures.

Treatment overview

Treating any ongoing arthritic problem, no matter its cause, involves the following:

■ Halting the initial reason that caused the inflammatory process

■ Repairing the damage already present

■ Returning the joint (as much as possible) to normal function; without function, the joint will ultimately fuse

■ Enhancing the healing process.

Repair of the damaged surface of a joint depends on several factors, including:

■ Removal of the inciting cause. Examples include removing exostoses and joint floaters, eliminating infection, or rebalancing the immune system in the case of immune-mediated arthritis.

■ Return to a more normal joint movement (if possible).

■ Pain control. Returning to normal joint movement usually requires some easing of existing pain, either via acupuncture, chiropractic adjustments, or herbal (or other) remedies. And, a joint will remain normal only if its functional way of moving has returned to near-normal.

■ Provide the necessary basics for healing, using nutrients and nutriceuticals

Natural medicines for joints

I consider **chiropractic and acupuncture** as the one-two punch for any problem involving the musculoskeletal system; both are especially effective for treating joint conditions. Chiropractic is used in an attempt to return the joint to its normal function – a necessary prerequisite for any long-term healing of the joints. Acupuncture is a proven therapy for alleviating pain and enhancing the immune system. Plus, it may offer a necessary "energetic" to enhance healing.

Homeopathic remedies, especially when used in the classical way, may be curative for joint diseases, but I generally consider them to be more helpful as an acute therapy for pain. Remedies that I have found to be effective for my patients include: Arnica, used early-on for acute pain; Rhus tox for the "rusty gate" syndrome – the limp that gets better with use; Byronia for the limp that gets worse with movement; Hypericum for pain; and Ruta for deep pain.

Massage and physical therapy can be vital therapies to help in the healing process. These methods help eliminate pain, and physical therapy, in particular, helps return the joint's normal function by helping it move through its normal range.

There are dozens of **herbs** that can be helpful for treating joint diseases, and they can be especially helpful for providing nontoxic pain relief and for balancing the immune system. In addition, there are some herbs that have been used to treat specific joint problems. Check with an herbalist who has some experience using herbs to treat animals for the appropriate herbs and their dosages. [Editor's note: Also see Dr. Kidd's book, *Dr. Kidd's Guide to Herbal Dog Care.]*

Nutrients and nutriceuticals. There has been much recent buzz about using nutrients and nutriceuticals for joint healing, and the interest has been for good reason – many, if not most, animals with joint conditions respond to varying degrees after a month or so of treatment.

There are several of the glycosaminoglycans (GAGs) and proteoglycans that have been used. The most popular are glucosamine (the basic building block for cartilaginous tissue) and chondroitin sulfate, which prevents other body enzymes from degrading the building blocks of joint cartilage.

Methylsulphonylmethane (MSM) is another substance that is often added to "joint-repair" mixtures. It supplies needed sulphur molecules and seems to provide additional pain relief.

There are a variety of these products available commercially, and even some of today's commercial dog foods contain them (although probably not in amounts that could possibly be therapeutic). My own experience would indicate that it will take your dog at least 30 days to respond to any of the nutriceuticals mentioned.

Further, one product does not fit all; in my experience, some dogs respond to one product and not others, and visa versa. If one product doesn't seem to be working after a few months trial, first try increasing the dosage for a month or so. If that doesn't work, try another product. In every case I can think of, we have eventually come up with a product that seems to be helpful.

Recent evidence indicates that the Omega-3 fats are beneficial for helping with the joint healing process. Manganese is needed for healthy cartilage formation and it is used in several enzymatic processes in the body. Supplemental vitamin C (especially in the form of sodium ascorbate) is also beneficial for tissue healing.

For dosages and method of application of the nutriceuticals and nutrients, check with your holistic veterinarian. 🐾

Dr. Randy Kidd earned his DVM degree from Ohio State University and his PhD in Pathology/Clinical Pathology from Kansas State University. A past president of the American Holistic Veterinary Medical Association, he's author of Dr. Kidd's Guide to Herbal Dog Care *and* Dr. Kidd's Guide to Herbal Cat Care *(see page 24).*

The Whole Dog Journal™

RESOURCES

BOOKS

WDJ Training Editor Pat Miller is author of two books: *The Power of Positive Dog Training* and the brand-new *Positive Perspectives: Love Your Dog, Train Your Dog*. Both books are available from DogWise, (800) 776-2665 or dogwise.com

Dr. Kidd's Guide to Herbal Dog Care and *Dr. Kidd's Guide to Herbal Cat Care* are published by Storey Books, (800) 441-5700 or storeybooks.com

The Encyclopedia of Natural Pet Care and *Natural Remedies for Dogs and Cats,* by WDJ contributor CJ Puotinen, are available from DogWise, (800) 776-2665 or dogwise.com. Puotinen is also author of several books about human health including *Natural Relief from Aches and Pains,* available from your favorite bookseller.

TRAINING AND INSTRUCTION

Pat Miller, CPDT, Peaceable Paws Dog and Puppy Training, Hagerstown, Maryland. Train with modern, dog-friendly positive methods. Group and private training, Rally, behavior modification, workshops, intern and apprentice programs. Call her at (301) 582-9420 or see peaceablepaws.com

The Association of Pet Dog Trainers (APDT) has references to member trainers in your area. Write to 150 Executive Center Drive, Box 35, Greenville, SC 29615, or call (800) 738-3647. The APDT database of member trainers can be seen at apdt.com

HOLISTIC VETERINARIANS

American Holistic Veterinary Medical Association (AHVMA), 2214 Old Emmorton Road, Bel Air, MD 21015. (410) 569-0795. Send a self-addressed, stamped envelope for a list of holistic veterinarians in your area, or search ahvma.org

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