

Expert information on medicine, behavior, and health in collaboration with a world leader in veterinary medicine

THIS JUST IN

Canine Sleep Patterns

Age, weight, and gender differences were found

A new canine sleep study from North Carolina State University followed 42 healthy adult dogs (21 male and 21 female), ages 2 to 8 years old. The dogs wore activity monitors on their collars for a two-week period, and their owners filled out a questionnaire on the dogs' sleep patterns. Most dogs have two activity peaks during the day: a shorter window from 8 a.m. to 10 a.m., followed by a midday lull and a longer active period from about 5 p.m. to 11 p.m. All dogs were more active during weekends than weekdays.

Since most of the participants were pets of people who work outside the home, the researchers saw that the dogs were most active when human interaction happens. There were the occasional outliers, like some midday zoomies, but the pattern held true on average across 14 days for each dog.

The research revealed that weight and sex affected the active periods. Lighter dogs tended to be more active in a short period just after midnight, while female dogs seemed to be more active during the evening peak than males. Older dogs, not surprisingly, were less active during the peak activity times. ■

Woods, HJ, et al. *A functional linear modeling approach to sleep-wake cycles in dogs.*

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Play Ball! Safely!

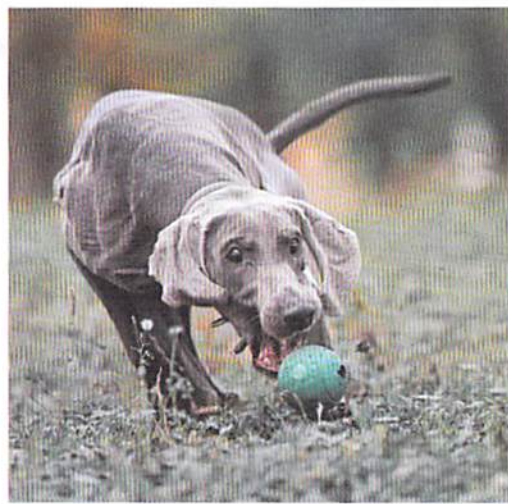
Playing till the dog is exhausted risks injury

Most dogs love to retrieve—or at the very least run after a thrown object and run with it—sometimes to you, sometimes away from you. Coming home from work after a long day, sitting in a chair on the deck with a nice beverage and letting your dog rip around the yard to “take the edge off” is an attractive picture to many dog owners. There are some caveats, however.

Chris Zink DVM, DACVSMR, uses her sports medicine and rehabilitation expertise to outline some safe ways to play ball with your dog. To start with, realize that mental exhaustion is better for wearing your dog out than physical exhaustion. Many dogs have incredible stamina and drive and will literally run until they drop—your arm will give out way before their legs do. So, save ball games for sheer fun and follow these six tips:

- 1 Make your dog wait until the ball or toy has landed. Dead running with turns and abrupt stops can injure your weekend warrior.
- 2 Throw the ball into tall grass or brush so your dog must search a bit to find it. That gives him some mental exercise and will help to wear him out. It can be interesting to see if your dog tends to use vision or scent to find the ball.
- 3 While it's fun to watch, don't let your dog leap up to catch the toy. Those amazing leaps and twists often lead to injuries—both acute injuries or damage that builds up over time from repeated actions are possible.
- 4 Start a fitness program before you start a lot of retrieving. A fit dog is less likely to have injuries. Fitness includes stretches and muscle building exercises, not just aerobic activities. Having him at a proper weight is extremely important to avoid over stressing muscles, tendons, and ligaments.
- 5 Choose the right toy for your dog. A small tennis ball could choke your large dog. Sticks can cause injuries if your dog trips while running back to you.
- 6 Stop before your dog is too tired. Dr. Zink uses the “tongue spoon” example. If your dog's tongue is curling at the edges or wider at the tip, then your dog is reaching the point where he is tired. And the more tired he is, the more likely he is to injure himself. He is trying to increase his panting surface, and his muscles are probably approaching overload.

Those canine retrieve-the-ball fanatics will have dilated eyes and are oblivious to everything else. On the chase with adrenaline overload, they won't hear you call them back from the road or notice the tree or person or pet in their way. You should leave them wanting more. ■



For some dogs, nothing's better than a ball.

Karen Eshelman | iStock Photos

Possible New Cancer Drug for Dogs

It's now used to treat breast cancer in people

Washington State University veterinarians are investigating whether a drug used to treat breast cancer in humans, the drug capecitabine, brand name Xeloda, could be used to slow the growth of epithelial cancers in dogs. Dr. Janean Fidel, WSU's senior veterinary oncologist, has examined a host of anti-cancer therapies in humans for their potential use in dogs.

The study will be looking at ideal dose and dosing schedule determined by blood levels of the drug, its safety, and efficacy. Human side effects have been relatively minor and include nausea, vomiting, loss of appetite, sleepiness, headaches, and dizziness.

The first patient in the initial 10-dog study is a Rough-Coated Collie named Rollie with bladder cancer.

Dogs in the study will be monitored throughout a four-week period with one week off in the middle. One of the pluses to this drug is that it can be given orally, so owners could give the medication at home themselves (taking appropriate precautions while handling the pills). That would make it less costly than many other options, easier for owners, and less stressful for the dogs. ■

Osteoarthritis Pain

A promising new treatment

Between 20% to 40% of all dogs will suffer from osteoarthritic pain at some point in their lives. This pain is not just due to simple inflammation but to a multitude of factors involving nerves and joints, and it has systemic effects, including a cognitive effect, says Duncan Lascelles, Professor of Translational Pain Research and Management at North Carolina State University.

Prostaglandins have been the poster children of pain agents, but nerve growth factor (NGF) can also be involved. Damaged tissues lead to an increase in NGF, which, in turn, attracts inflammatory cells. New research is being done creating monoclonal antibodies against NGF.

Monoclonal antibodies against something like NGF are species-specific. For dogs, the current versions are ranevetmab and bedinvetmab (brand name Librela), which has already been approved in the European Union for use in dogs. Studies have shown that one injection of these compounds leads to an improvement in comfort and mobility for at least eight weeks. The dogs are better off than if they had been given nonsteroidal anti-inflammatories (NSAIDs), which have been the mainstay veterinary drugs for osteoarthritis.

The use of these monoclonal antibodies against NGF has shown some serious side effects in humans, but not in dogs at this time. Research is ongoing, but we will keep an eye on this as a future treatment for your arthritic dog. ■

Meet the Biewer Terrier



The American Kennel Club added the Biewer (pronounced beaver) Terrier as its 197th recognized breed, part of the Toy Group. The four- to eight-pound terrier is long-haired, tri-colored with a soft, silky coat and a feathered tail that curls over its back. "Add to that a neat ponytail atop its head and a proud sassy walk," says Myrna Torres, of Sierra Madre, Calif., co-founder of the breed. The dogs are said to be just as at home in a residential community as a lap dog as they are in a rural area on a farm. You can expect to see the Biewers in agility, rally, dock diving, and obedience competitions in addition to the conformation ring. ■



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Oral Cancer! Now What?

Electrochemotherapy emerges as viable treatment

Oral cancers are one of the more common tumors in dogs, accounting for about 5 percent of all cancers, according to a Purdue University study. The most common locations for oral tumors are the gums, lips, tongue, and the tonsils. Slightly over half the tumors in the study were malignant. While some studies have shown a higher risk for male dogs, it appears that the increased risk is primarily for certain types of oral cancers, specifically fibrosarcomas, melanomas, and tonsillar carcinomas.

In the Purdue study, the mean age for dogs diagnosed with oral squamous cell carcinoma, fibrosarcoma, and melanoma were 8.4 years, 7.9 years, and 10.4 years. According to the Veterinary Society for Surgical Oncology, the most common oral tumor in dogs is malignant melanoma with an incidence of 31% to 42%, followed by squamous cell carcinoma at 17% to 25%, and oral fibrosarcoma at 7.5% to 25%. If you note something odd in your dog's mouth, get it evaluated.

Surgery is usually the first way to fight

What You Can Do

- ▶ **Know the Normal:** Look in your dog's mouth when you have a chance. Learn what his normal mouth looks like so you quickly spot abnormalities.
- ▶ **Signs of a Tumor:** Drooling (possibly blood tinged); bad breath; trouble eating, drinking, or swallowing; swelling of his muzzle; pawing at his mouth or rubbing his face; or missing or loose teeth. Some dogs will show reluctance to eat hard kibble or no longer enjoy hard chews or biscuits.
- ▶ **Get the Dog Evaluated:** A biopsy and/or surgery will be done to verify the tissues involved and malignancy. This will give you the stage of cancer, risk for metastasis, and local recurrence and help your veterinarian determine the dog's prognosis and best treatments.



Note the tumor on the left before treatment and the same location on the right, post electrochemotherapy.

these cancers, with radiation therapy also used as a primary treatment or for follow-up care. Chemotherapy is not that helpful given systemically, but it can be used intralesionally (directly into the cancer) for melanoma.

Joseph A. Impellizeri DVM, DACVIM, MRCVS (Cornell 1994) of Veterinary Oncology Services, PLLC at Guardian Veterinary Specialists, Brewster, N.Y., and Wood River Animal Hospital, Wyoming, R.I., has noted improved response to chemotherapy for melanomas when combined with an electrical field.

"Electrochemotherapy involves combining a normally poorly absorbed chemotherapy agent and the delivery of an electrical field directly to the tumor," says Dr. Impellizeri. "The tumor is exposed to an electric field for a few milliseconds, which causes the tumor cells to become porous for up to an hour after the procedure and allows for an increase of up to a thousandfold in the local absorption of the chemotherapy."

Metastasis

Knowing the type of cancer your dog is fighting and its likelihood of malignancy (ability to invade surrounding tissues) allows your veterinarian to give you an idea of his prognosis and map out the best treatment for your dog.

Oral melanomas tend to be aggressive cancers, locally invasive and with a high risk of metastasis. Fibrosarcomas are less likely to spread. Squamous cell carcinomas are less likely to metastasize but often have bony involvement.

If your veterinarian suspects cancer, the dog will need a biopsy to determine

the tissue type. The next step is to look for metastasis (spread) using radiographs to look at the lungs and jaw bones and an ultrasound to screen the abdomen.

Any enlarged lymph nodes in the area will require removal, a biopsy, or a fine-needle aspirate to remove cells for histopathology, which is examination of the cells under a microscope.

With a diagnosis and prognosis for the future, you and your veterinarian can determine whether to pursue treatment or not. If you opt for treatment, your veterinarian will likely give you a referral to see a board-certified veterinary oncologist.

Treatment Options

With surgery, the goal is to get clear margins, which means the excision of the tumor includes all the cells in the outside edges. This can be tricky to do, especially with the limited tissue available in the mouth. If there is bony involvement, surgery might involve removing the jawbone. Many dogs with squamous cell carcinoma require removal of the jawbone (upper or lower) on the affected side. Fortunately, most dogs do fine after surgery, able to eat and drink normally.

Radiation can be effective, as can electrochemotherapy. Traditional systemic chemotherapy does not help.

Photodynamic therapy may bring some quality of life. In this treatment, a photosensitizing agent (drug) is injected into the bloodstream. The drug is then activated using a laser, which causes the drug to produce a type of oxygen that kills cancer cells, shrinking the tumor.

Immunotherapy can help in oral cancer, especially melanoma. Oncept is a DNA-based vaccine that acts against melanoma cancers in dogs. Note that this is not a vaccine to prevent the development of melanomas. It is used post-surgery to slow or, hopefully, prevent the spread of metastatic cancer.

Prognosis

There is no way to prevent oral cancers, so checking your dog's mouth for abnormal growths is important. The earlier you can identify a growth, the greater the chances for successful treatment. An ideal time is if your dog is lying sprawled upside down with his mouth open. You could also make a check each time you brush your dog's teeth, if you do that. ■

Getting Rid of Unwelcome Guests

Choosing the right eviction method can be challenging

A wide variety of products are on the market to treat ectoparasites. When your dog needs protection from fleas, ticks, and/or mites, it can be daunting to try to select the “right” one. The good news is, there are probably several that will fit your needs!

Read the Label

The most important thing to consider when choosing a product is whether or not it is effective against the parasite(s) that you wish to target. This may sound obvious, but it can be easy to get turned around when looking at a row of brightly colored product labels that all look similar. Fleas and mites are generally easier to kill than ticks, so it is especially important to pay close attention if you are looking for something effective against ticks.

Some products treat internal parasites such as hookworms and roundworms as well as ectoparasites. Not all worms are susceptible to the same medications, so if your dog has a particular worm, be sure that the product will treat the one you need. If one product doesn't kill everything, you can match it up with a complementary one.

Oral vs. Topical

One of the first big choices is deciding

whether you want an oral or a topical product. Oral products are usually flavored chews or tabs that your dog will hopefully eat like a treat. Topical products include spot-on liquids, sprays, and collars. There are pros and cons to each choice.

Topical flea and tick products have been around for a long time, and many of them have a solid reputation for keeping pets free of creepy-crawlies. These products can also often be purchased over-the-counter. There are individual limitations, however.

“Coat density, presence of intercurrent skin disease, frequency of swimming or bathing, etc. all impact the efficacy and duration of action of the product,” says William Miller, VMD, DACVD, Professor Emeritus of Medicine, Section of Dermatology at Cornell. “An owner of a Malamute is really kidding themselves if they think they are protecting their dog by applying a flea and tick spray, powder, or cheap generic spot application product.”

Product labels may include information on how soon you can bathe your dog or allow him to swim after applying the product without completely washing it off, or you can contact the company for more details.

Flea and tick collars are also affected by swimming and bathing, and may not last as long for dogs who can't stay out of the pool as they do for dogs who prefer to sunbathe.

Dr. Miller says, “I'm a big fan of the oral products. Ease of application with subsequent accurate ‘distribution’ to all the body areas make them hard to beat. Now that the flea and tick versions are being reformulated to include heartworm preventatives, the owner will have much better parasite control for their pet.” Once your dog has eaten his oral parasite preventive, he will be all set until the next dose is due, and doesn't need to worry about jumping in the lake.

“Like all oral

medications, side effects like diarrhea can occur and preclude the use of that product in the pet,” says Dr. Miller. “The draw back to the orals is that the current products don't repel so some parasites, like flies and mosquitos, can still ‘bite.’ If this is an issue in a certain area, a topical—I prefer pump spray products since they can be applied just to the areas of the body, e.g., ventral abdomen, where they are needed—can be used with the oral product.”

Oral products require a prescription from your veterinarian. While this may seem annoying at times, it provides an extra safety net for your dog, as your veterinarian may notice something in your dog's file that suggests she might not tolerate a particular product. Topical products can be washed off if the dog has an adverse reaction, but once your dog eats an oral product and it spreads through his body, you may be stuck with any side effects until the product wears off in a month or more. Don't let side effects scare you away from ectoparasite prevention, however. “If the dog has side effects to one company's product, it may very well tolerate another company's product,” says Dr. Miller.

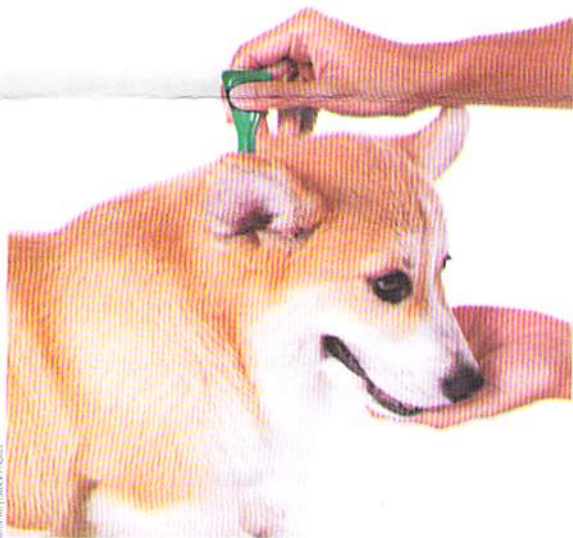
Note: “Since the veterinarian's office must spend time receiving, writing, and recording the prescription in the patient's medical record, it is very reasonable for the veterinarian to charge a small fee to write or approve a refill for an outside prescription,” says Dr. Miller.

Where to Shop

Ectoparasite preventive medications can be purchased at your veterinarian's office, at stores, or even online. The plus to buying from your veterinarian is that you know the product is coming from a reputable source and the product in the box is what it says on the label.

Dr. Miller says, “If an online company is to be used, remember there are good ones and there are bad ones.” You can still order prescription flea-and-tick preventives online, but you will need to submit the prescription from your veterinarian to get the product.

If you are looking to save some money but also want to support your local veterinarian's office, ask the staff if they do price matching or offer any coupons. Many companies offer rebates for products purchased through your veterinarian that can make the price comparable to or even lower than those listed online. ■



Coat density can affect the efficacy of a spot treatment flea/tick control medicine, making oral treatments a better option for many dogs.

Products for Flea, Tick, and Mite Prevention

We can't emphasize this enough: Use any flea-control product EXACTLY as directed. If it says do not use on puppies, don't. Do not combine any medications or break a large dose into two smaller dog doses. You may read well-meaning advice that the timing of spot flea-control products can be lengthened to save money. No! The directions for time of re-application and the amount of dose were purposely designed for optimal effectiveness. Dilutions and frequency of dosing are derived from safety data! Not only might you destroy the effectiveness of the product you're using, you might inadvertently harm your dog.

The chart below shows a small selection of the products available. For complete information on each product, see the labels. Some products are used "off-label" to treat mites even though they were not designed to do so, but discuss this with your veterinarian.

Product	Active Ingredients	Type	Effective Against	Duration of Effect	Comments
Adams Plus	Etofenprox, (S)-Methoprene, Piperonyl Butoxide	Spray	Fleas, ticks	One month	10 weeks old and up Repels mosquitoes Can be used on your dog and home
Advantage II	Imidacloprid, Pyriproxyfen	Topical	Fleas	One month	7 weeks old and up Kills fleas on contact Waterproof after 24 hours
Bravecto	Fluralaner	Oral	Fleas, ticks, mites	Three months	6 months old and up Only effective against lone star ticks for 8 weeks Parasite must bite to be killed Seizures possible side effect
Capstar	Nitenpyram	Oral	Fleas	Four to six hours	4 weeks old and up Starts working within 30 minutes Kills all fleas on the pet, will still need to treat environment
Frontline Plus	Fipronil, (S)-methoprene	Topical	Fleas, ticks, mites	One month	8 weeks old and up Waterproof after 24 hours
K9 Advantix	Imidacloprid, Permethrin, Pyriproxyfen	Topical	Fleas, ticks, mites	One month	7 weeks old and up Kills and repels
NexGard	Afoxolaner	Oral	Fleas, ticks, mites	One month	8 weeks old and up FDA approved to prevent Lyme infections Seizures possible side effect Parasite must bite to be killed
Revolution	Selamectin	Topical	Fleas, ticks, mites	One month	6 weeks old and up Also protects against heartworms May only be effective against American dog tick
Seresto	Imidacloprid, Flumethrin	Collar	Fleas, ticks, mites	Eight months	7 weeks old and up Kills and repels Frequent swimming or bathing shortens duration of efficacy
Simparica Trio	Sarolaner, Moxidectin, Pyrantel	Oral	Fleas, ticks, mites	One month	8 weeks old and up Also prevents heartworms and treats roundworms and hookworms Kills five types of ticks Parasite must bite to be killed Seizures possible side effect
Trifexis	Spinosad, Milbemycin Oxime	Oral	Fleas	One month	8 weeks old and up Also prevents heartworm and treats hookworms, roundworms, and whipworms
Vectra-3D	Dinotefuran, Pyriproxyfen, Permethrin	Topical	Fleas, ticks, mites	One month	8 weeks old and up Kills on contact Repels mosquitoes Not effective against mites that cause mange
Vet's Best Flea + Tick Home Spray	Peppermint Oil, Eugenol, Sodium Lauryl Sulfate	Spray	Fleas, ticks	12 hours or less	12 weeks old and up Can be used on your dog and home Kills on contact Repels mosquitoes

How to Treat Paw Pad Lacerations

These injuries can take several weeks to heal

Dogs can damage the pads on the bottom of their paws any number of ways, from scraping them running hard over rough ground to getting a bad cut when hit by a car. Paw pad lacerations often take longer to heal than normal skin injuries and require keeping the patient calm. Superficial cuts can be managed at home, but deeper slices will require veterinary attention and even stitches to ensure efficient healing.

Why Pads Are Special

Your dog's pads are specialized sections of skin that have developed to be thicker and tougher. This allows them to withstand the pressure of bearing the weight of your dog's body and the sheering forces of movement. Like skin, the pad has three layers: the epidermis, dermis, and a fatty layer.

In the pad, the epidermis is thick with extra keratin for durability. The dermis is also more fibrous in that area than anywhere else on the body to provide additional strength. The fibroadipose, or fatty, layer provides a cushion like the padding in your shoes.

It is important to preserve this specialized tissue. Without it, your dog's feet would be extremely fragile and prone to injuries and damage.

Superficial Damage

"Most superficial lacerations on the paw pad will heal with bandaging alone. Pads heal much more slowly than normal



Small cracks in your dog's paw, like these, can be painful. Think about the cold-weather cracks you sometimes get around your nails.

skin, so bandaging may be needed for up to three weeks (with bandage changes as often as needed for soiled bandages) in order for the pad to heal with a stable scar," says James Flanders, DVM, DACVS, Emeritus Associate Professor Section of Small Animal Surgery.

Superficial cuts are small and shallow, and may not even bleed. Some dogs also scrape or "burn off" the top of the epidermis when running hard on rough or dry ground. The paw may be tender and the dog may have a limp, but she may also continue to use the leg. If she isn't bleeding and the wound is clean, you may be able to apply liquid bandage or a small amount of super glue to protect it.

Warning: This may sting at first, so your dog may not sit still.

If there is any dirt or debris in the cut, it needs to be flushed with clean water or saline. A "dirty" wound with debris in it is also at an increased risk for getting infected. These wounds are not an emergency but require a veterinary visit promptly. If infection is present, your veterinarian may prescribe antibiotics.

A paw pad cut that has gone deep enough to bleed should be examined by a veterinarian. You can apply a light bandage with a nonstick pad and gauze to control the bleeding while waiting for an appointment. Mild bleeding does not require an emergency appointment, but heavier bleeding does.

Deep Cuts

"Surgical intervention (suturing) is needed only when the laceration is very deep, extending into the base of the cornified (tough, thick black) tissue or into the fat pad below the pad," says Dr. Flanders. "Sutures can help stabilize the injured tissue and speed healing."

These deep cuts will bleed, and the dog will likely be painful. Some dogs may still use the injured paw, especially if they are excited.

Suturing these wounds facilitates healing by bringing the edges of the wound together so there is a smaller gap. Open wounds will still heal on their own, but may take longer due to the greater amount of cells that have to be replaced. An open wound is also at higher risk of infection, especially if the paw is allowed contact with the ground.

Avoid Weight Bearing

Dr. Flanders recommends limiting weight-bearing activity while your dog's paw pad heals. He says, "Pad lacerations, even superficial ones, heal very slowly if dogs are allowed to run or place weight on the injured pad. Bearing weight on a lacerated pad will push the laceration open and break down early attempts by the body to heal."

There are several ways you can limit weight bearing after your dog has been injured. The first step is to limit your dog's activity. Keep her on a leash when outside, and limit walks to what she needs to go outside to relieve herself. Inside the house, keep her confined to one room so she isn't roaming the house. Prevent wild play with other pets as well.

You can also physically protect her paw. "Bandages and booties help protect

Severe Pad Damage

If your dog has suffered severe damage to her paw pad, reconstruction of the paw can be complicated. "Loss or injury of pad tissue, despite an otherwise normal limb, can result in complete loss of limb function, so preserving pad function is critical for most small animals," says Daniel D. Smeak, DVM, DACVS, of Colorado State University.

Skin grafts from elsewhere on the dog's body won't provide the same protection as a true pad, so ideally as much of the pad tissue as possible needs to be preserved. This is especially important for your dog's two middle toes on each paw and the large metacarpal and metatarsal pads (the larger pads shaped like a heart), as these are the pads that do the most weight bearing.

Dr. Smeak has described techniques for using the pad tissue from the outside toes and/or the carpal pad (a small, non-weight-bearing pad behind your dog's wrist) to replace missing metacarpal and metatarsal pads. It is also possible to transfer paw pad tissue to create a new "pad" at the end of a limb amputation if the dog is likely to be using the leg.

What You Can Do

- ▶ Try to avoid areas with broken glass, ceramic, stone, or cement that may have sharp edges when allowing your dog to run
- ▶ Clean cuts promptly with sterile saline or clean water to remove debris
- ▶ Cover the paw with a bandage to keep the laceration clean and slow bleeding
- ▶ Have the cut evaluated by a veterinarian to determine the need for sutures and/or antibiotics
- ▶ Limit your dog's activity during the healing process
- ▶ Keep the bandage clean and dry

the pad while it is healing," says Dr. Flanders. Your veterinarian will apply a bandage during your initial appointment for the cut and will advise you on how often the bandage will likely need to be changed. This varies depending on the size of the cut and how much it bleeds, as well as if there are any medications that need to be applied directly to the wound. If your dog is cooperative, your veterinarian can show you how to change the bandage at home.

Booties or another waterproof covering are essential to keep the bandage clean and dry when your dog goes outside. Moisture that penetrates the layers of the bandage is called "strike-through" and provides a highway for bacteria to gain access to the wound. This applies both to moisture that comes from the environment and to blood and serum that seeps out of the wound itself.

Many dogs don't enjoy wearing booties or bandages, so be patient and use lots of praise and treats to acclimate your dog to her new footwear. The upside to dislike of booties is that if your dog won't put her foot down with a bootie or bandage on, she definitely isn't putting pressure on the wound! Most booties should not be left on for extended periods of time, so remove the bootie when you get back inside.

Keep an eye on your dog's paw health. Taking a little extra care and patience will have your pup on the mend and all healed up in a matter of weeks. ■

The Problem with Chocolate

The darker the chocolate, the more deadly for your dog

Dogs are notorious for having a sweet tooth, and their cravings can drive them to any kind of chocolate or candy within reach. But candy can be toxic to dogs, especially in large amounts, if a dark chocolate, or if it contains the artificial sweetener xylitol.

Darker chocolates such as Baker's chocolate or cocoa powder have the highest levels of theobromine and caffeine, the canine-toxic ingredients. White chocolate has the least. Milk chocolate is somewhere between.

The first signs are usually gastrointestinal upset such as vomiting and diarrhea. Tremors may follow. Many dogs become hyperactive. If you feel your dog's chest or check his pulse, you might notice an elevated heart rate, which can lead to abnormal heart rhythms along with seizures and potentially death. Both body temperature and blood pressure may rise above normal levels as well.

If your dog or puppy has made a chocolate raid, contact your veterinarian. She will need to know what type of chocolate your dog ate, what your dog weighs, and how recently the chocolate was consumed.

Luckily, chocolate toxicity is treatable, especially if caught early. Your veterinarian may recommend making your dog vomit if the raid was recent, if you can (do not attempt this unless you talk with your veterinarian!). Fluid therapy will help your dog recover.

It's not just the chocolate! Raisins, macadamia nuts, alcohol, and coffee beans may be present in candy and can be toxic. In addition, any swallowed wrappers may cause obstruction and gastrointestinal irritation.

The biggest risk with candies, however, is xylitol. "Xylitol is used as a sweetener in many products, including gum, candy, baked goods, and toothpaste. It can cause insulin release in most species, which can lead to liver failure," says Tina Wismer, DVM, MS, DABVT, DABT Senior Director, ASPCA Animal Poison Control Center. Xylitol can drop blood glucose levels to life-threatening levels in just 30 minutes.

Immediate treatment at the veterinary clinic is critical, where intravenous dextrose may be administered if hypoglycemia is present. Fluids will



Dogs like this Westie are often accomplished beggars, but that dark chocolate filling could be a problem for this little guy.

be given, and blood glucose levels will be monitored for up to two days. Liver enzyme values will be checked. Liver protectants such as milk thistle may be started prophylactically. Xylitol poisoning is a true emergency. ■

You Should Know

Uncooked dough can be toxic to pets. The raw yeast ferments the carbohydrates in the dough while releasing carbon dioxide and alcohol (making the bread rise). The alcohol can cause alcohol poisoning.

Signs include ataxia (unstable gait), progress to acidosis, tremors, hypotension, hypothermia, and respiratory depression. The risk of aspiration is high as ethanol irritates the stomach, causing vomiting, yet it also paralyzes the muscles that close the epiglottis. If the dough contains macadamia nuts or raisins, a second source of toxicity is possible.

If your dog eats raw dough, contact your veterinarian immediately. The dough already may be expanding in his stomach as it ferments, making him uncomfortable and unlikely to be able to vomit it up. The expanding dough can cause bloat and gastric dilatation and volvulus, requiring emergency surgery. Gastric lavage to cool the dough and fluids may help.

Dog-Park Experience Is Spoiled

An unfriendly encounter changed Bailey's outlook

Q I am writing about my rescue, Bailey. I adopted her in January 2018 at the age of 7 months. According to her DNA testing, she is mainly Border Collie and Greyhound.

When I first brought her home, she was extremely timid, especially of children and men, but pretty much afraid of everything. Then I learned of a fully fenced-in dog park in our hometown. It's a huge one-acre archery field that, from 7 a.m. to 9 a.m. is a dog run.

The moment Bailey was in the park, she became a different dog. She was happy, playful, and loved all the people and dogs there. Since the time is so limited, the same people are there every day. I am a middle-school teacher, so when I am at work, I have my dog walker take Bailey to the park, and on weekends, and on vacation days, I take her myself.

About a year ago, a new dog came in and was extremely timid. By this time, Bailey had become the self-appointed "welcome wagon" for new dogs. She went to the dog to kiss her, and the dog turned and attacked her. Causing an injury to her ear that kept her from the park for about two weeks.

Since then, whenever a dog is timid, Bailey attacks first. So, when a new dog comes in, I have Bailey stay away from him/her until the dog is comfortable and playing with the other dogs.



Bailey is a Border Collie-Greyhound mix.

Recently, Bailey has become aggressive out of nowhere. She will be playing with one of her friends, whether running, wrestling, or just tug-of-war, and just turn on the other dog.

I should mention that in the park, she wears a shock collar. If she doesn't respond to my voice, I hit the button to beep to her, if she doesn't respond to the beep, she gets a (low) shock. We never have to get to the shock because she usually listens beautifully to voice commands. Until now.

A You were kind to take on a rescue dog, and she is a very attractive animal. Unfortunately, many if not most, of the dogs I see for aggression

to strange dogs have a history of being attacked by a strange dog. It is not surprising that those dogs have become aggressive.

There is another thing that can cause aggression and that is pain. There are two possible causes of pain for Bailey: some medical problem and the shock collar. Please do not use the shock collar. Don't even use the buzz because she associates that with the shock. Even trainers experienced with using electronic collars get better results—better obedience—with rewards. The process is called positive reinforcement. Negative reinforcement is doing something that the dog doesn't like such as pulling on her leash until she does what you want such as coming to you. You are using punishment. The dog does something you don't like so you shock her. The strength of the punishment and, above all, the timing have to be just right, or the dog will learn only that her once beloved owner is making her neck hurt.

Sorry for the lecture, but we get many cases of dogs whose owners have tried a trainer who while charging large fees, advocated shock (euphemistically called a "training collar") and only then coming to us.

Now, what can you do? The best solution would be to not take Bailey to the dog park. She is frightening and, sometimes hurting, other dogs and may not enjoy it as much as she did when she had dog friends instead of dog enemies. You could take her muzzled, but another dog could take advantage of her inability to fight back and injure her. The park helped her become less withdrawn when she was younger, but now it is time for nice long walks with you or play sessions in your backyard. ■

Do You Have a Behavior Concern?

Send your behavior questions to Cornell's renowned behavior expert Katherine Houpt, VMD, Ph.D., shown here with Yuki, her West Highland White Terrier. Email to dogwatcheditor@cornell.edu or send by regular mail to DogWatch, 535 Connecticut Ave., Norwalk, CT 06854-1713.



Coming Up ...

- ▶ Why Is My Dog Growling?
- ▶ Understanding Osteosarcoma
- ▶ Efficient, Effective Dog Travel Packs
- ▶ Walking Among Wild Animals

© HAPPENING NOW...

We Hope It Passes—A state representative from Boca Raton, Fla., wants to fine people for leaving dogs or cats outside in severe weather, according to CBSMiami. The proposal (HB177) suggests penalties starting with a written warning, a \$250 fine for second offenses, and \$500 for subsequent violations. This isn't the state's first attempt. Previously, a bill proposed first-degree misdemeanor charges, with penalties of up to one year in jail or \$5,000, for leaving dogs unattended during freezing temperatures and other severe weather. It didn't pass.



Chayapong Surinrakorn/Stock Photo

Fastest Dog Winner—The American Kennel Club's Fast Course Ability Testing (called "Fast CAT") Invitational was won by Wailin' Phelan The Bearded Lass, an All-American Dog. Phelan ran the required 100 yards in 6.346 seconds—or 32.3 miles per hour (mph). Fast Cat is a timed race where dogs run 100 yards one at a time and the time is converted to miles per hour, and it is growing in popularity. The slowest dog at the AKC Invitational? A Pekinese named Buster, who averaged 7.8 mph. ■