



# DOG Watch

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

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## IN THE NEWS ...

### Link Between Pain and Aggression in Dogs

According to new research, pain may be the cause of sudden, unexplained aggression in dogs. Spanish researchers studied aggression problems in 12 dogs of various breeds.

The 11 males and one female were diagnosed as having aggression caused by pain, and eight of the dogs had hip dysplasia, according to the team at the Autonomous University of Barcelona. (Hip dysplasia is a hereditary and degenerative bone disorder that affects the joint connecting the hip and the head of the thigh bone.)

"Dogs that had never been aggressive before the onset of pain began to behave in this way in situations where an attempt is made to control them," lead researcher Tomas Camps, a researcher at the UAB's Animal Nutrition and Welfare Service.

The study was published in the *Journal of Veterinary Behavior-Clinical Applications and Research*. ♦

## Understanding Canine Ear Disease

*Medical and surgical remedies are available for chronic ear infections. Here are the signs to look for and what to do.*

Dogs with serious ear disorders are treated at the Cornell University Hospital for Animals (CUHA) just about every day. Most often, these dogs present with a chronic infection and its consequences in one or both ears. While most of these infections can be readily remedied with cleaning solutions and antibiotics, others will turn out to be treatable only by means of elaborate and sophisticated surgery.

According to James Flanders, DVM, an associate professor of surgery at Cornell



University's College of Veterinary Medicine, he and his colleagues at CUHA perform 50 operations or more every year just to treat the advanced stages of a condition called otitis externa, a chronic infection that tends to be very painful and, if untreated, can lead to partial deafness.

Otitis externa, however, is by no means the sole canine ear disorder. Some dogs are born deaf, while others may become so as the result of an adverse reaction to certain drugs, loud noises, anesthesia and aging.

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## Urinary Disorders: All Too Common

*The winding path from kidneys to urethra is prone to many serious malfunctions. Here's what you should know.*

Your dog's urinary system is a complex array of components arranged to carry out four primary functions: (1) filtering metabolic waste such as urea, mineral salts and various toxins from circulating blood; (2) helping to regulate the volume of body fluids and the blood levels of important chemicals and hormones; (3) initiating the recirculation of purified blood throughout an animal's system; and (4) facilitating the storage and excretion of the filtered-out waste products before they reach toxic concentrations in the body. To accomplish these processes, the urinary system comprises an upper tract and a lower tract.

Unfortunately, serious ailments can affect both urinary tracts. These disorders can severely compromise the urinary system's function and may have lethal consequences.

To make matters worse, they are by no means rare. Indeed, at the Cornell University Hospital for Animals, several dogs with urinary tract disease are treated every day.

**Kidney Ailments.** Most common among upper tract disorders are those involving the kidneys. Although a high risk for kidney disease may be inherited, the great majority are acquired, and they fall into two broad categories — acute and chronic renal failure. The essential difference between these disorders is that acute renal failure is a severe condition that manifests itself suddenly and dramatically over a period of a week or two, while chronic renal failure is a long-standing disease that progresses over several months or years.

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## Dogs: A Shoulder to Cry On?

New research suggests that dogs do respond to human tears — but whether pets have actual empathy for human pain is less clear. In a study published in the journal *Animal Cognition*, researchers at the University of London found that dogs were more likely to approach a crying person than someone who was either humming or talking, and that they normally responded to weeping with submissive behaviors. The results are what you might expect if dogs understand our pain, the researchers wrote, but it's not actually proof that they do.

"The humming was designed to be a relatively novel behavior, which might be likely to pique the dogs' curiosity," explained study researcher and psychologist Deborah Custance. "The fact that the dogs differentiated between crying and humming indicates that their response to crying was not purely driven by curiosity. Rather, the crying carried greater emotional meaning for the dogs and provoked a stronger overall response than either humming or talking."

Of the 18 dogs in the study, 15 approached their owner or Mayer during crying fits, while only six approached during humming. That suggests that it's emotional content, not curiosity, that brings the dogs running. Likewise, the dogs always approached the crying person, never the quiet person, as one might expect if the dog was seeking (rather than trying to provide) comfort.

"The dogs approached whoever was crying regardless of their identity. Thus they were responding to the person's emotion, not their own needs, which is suggestive of empathic-like comfort-offering behavior," Mayer said in a statement.

Of the 15 dogs that approached a crying owner or stranger, 13 did so with submissive body language, such as tucked tails and bowed heads, another behavior consistent with empathy (the other two were alert or playful). Still, the researchers aren't dog whisperers, and they can't prove conclusively what the dogs were thinking. It's possible that dogs learn to approach crying people because their owners give them affection when they do, the researchers wrote.

"We in no way claim that the present study provides definitive answers to the question of empathy in dogs," Mayer and Custance wrote. Nevertheless, they said, their experiment opens the door for more study of dogs' emotional lives, from whether different breeds respond to emotional owners differently to whether dogs understand the difference between laughter and tears.



## Information on Asthma in Kids

According to a new asthma study presented at the 2012 General Meeting of the American Society for Microbiology, children who live with dogs have a decreased risk for asthma due to exposure to a unique collection of microbes found within dog-associated house dust.

Researchers have long known that children who share a home with pets tend to have a decreased risk for asthma when compared to children living without a furry friend. According to a new study conducted by researchers at the University of California (San Francisco), house dust containing protective factors against a common respiratory virus associated with the development of asthma in children — respiratory syncytial virus (RSV) — appears to lower the risk for asthma.

"In this study we found that feeding mice house dust from homes that have dogs present protected them against a childhood airway infectious agent, respiratory syncytial virus (RSV). RSV infection is common in infants and can manifest as mild to severe respiratory symptoms. Severe infection in infancy is associated with a higher risk of developing childhood asthma," explained Kei E. Fujimura, PhD, one of the researchers of the study.

According to the American Lung Association, asthma is a chronic respiratory disease that affects approximately 17 million Americans. With an estimated 1.81 million individuals with asthma requiring treatment in emergency rooms for asthma symptoms and approximately 500,000 individuals requiring hospitalization for asthma-related problems, the cost for treating the disease in the United States is around \$19.7 billion each year. No cure currently exists for asthma.

The results of the present study are important for the future of asthma research. The findings may help to develop treatments for RSV, which may decrease the risk for asthma among children. ♦





## How to Meet a Strange Dog Safely

*More often than not, the best — and safest — approach you should take is no approach at all.*

As a dog owner or enthusiast, you probably consider yourself to be a dog person — someone innately in tune with the canine mindset, a person who loves dogs and expects them to love you back. If you subscribe to this approach, you might think nothing of walking up to that cute Lab leashed to the lamp post and giving him a quick rub on his ears. But if you're a truly savvy dog person, you know better.

Interactions with a strange dog, especially without its owner present, can be an invitation to trouble. Worst-case scenarios can include bites or even life-threatening attacks. It's important to understand when, how and whether it's appropriate for you to meet an unfamiliar dog.

There is an easy answer for the question of when to approach a strange dog: Rarely or never, unless an owner is present to give you guidance and the dog seems willing to interact with you. Here are some guidelines on how to handle

meeting a new dog in a variety of different situations.

### **A Tethered Dog With No Owner Present.**

It's become increasingly common, especially in urban areas, to see dogs waiting patiently outside storefronts for their owners. But if the dog is leashed or tethered to a stationary object, such as a fire hydrant or tree, and the owner is nowhere in sight, steer clear. "You should never approach an unattended, tethered dog," says Katherine A. Houpt, VMD, PhD, the emeritus James Law professor of the Animal Behavior Clinic at Cornell University's College of Veterinary Medicine. "Dogs may behave more aggressively when they're on leash, and that effect can be magnified if they feel trapped."

A tethered dog with nowhere to go can feel spooked or threatened by the approach of strangers and may react by lashing out. Don't assume that a wagging tail or a quiet demeanor signifies friendliness; many dogs wag their tails from

**PLAY IT SAFE.** Your children may love dogs, but be sure to teach them the safe and respectful way to interact with all animals.

excitement, arousal or even aggression, and a still body can be a precursor to an attack.

If the dog is tethered or chained in a yard, it's even more imperative to stay away. The dog in this situation not only has the frustration of being limited, coupled with the fear of being cornered, but he's likely to defend what he perceives as his territory. The bottom line: No matter how appealing the pooch, simply smile and walk by.

### **A Leashed Dog With Owner Present.**

If you're walking down the street and a seemingly friendly dog out for a stroll with his owner approaches you, don't presume it's okay to stop and pet the dog. "Owners often complain about people who claim they're 'dog people' and that dogs love them, only to have their dogs become frightened when the stranger approaches too closely," says Dr. Houpt. Your first step should always be to ask the owner's permission to approach by saying something like, "That's a beautiful dog. Is he friendly?" If the owner says yes, you can then ask, "May I pet him?" If the owner hesitates, take the hint and say something like, "Actually, he might prefer that I didn't. Have a nice walk!" Don't assume that your magical rapport with this strange animal will overcome any potential behavior problems.

However, if the owner responds positively and the dog's body language is welcoming — wiggly body, relaxed ears, slowly wagging tail — you can make contact. Do this by inviting the dog to interact rather than approaching the dog: Crouch down and speak to the dog in an encouraging voice. If he approaches you, proffer a lightly closed fist for him to sniff (not an open hand, which might be misconstrued as an impending blow). Don't stare into his eyes; direct eye contact can be mistaken for a challenge.

"Never pet the dog on top of his head," says Dr. Houpt; this can be taken as a sign of aggression by a wary dog. Instead, pet him under his chin or on his chest, or not at all. Keep your voice light

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**SEEK YOUR VETERINARIAN'S OPINION.**

Discuss the best way to keep your dog safe, and whether certain vaccinations are warranted.

**Requires Contact.** Dogs are not born harboring this virus, he points out. Rather, they acquire it through dog-to-dog contact. The most common mode of transmission of the virus from one animal to another is the “fecal-to-oral” route. That is, an uninfected dog ingests the feces of an infected dog while, for example, licking or sniffing its anal area or grooming itself after coming in contact with an infected animal’s waste.

Says Dr. Scott: “The incidence of coronavirus infection is especially high in shelters and kennels, where you have a lot of dogs assembled together and the virus is shed on the floors. People can contribute to the problem by walking around in these areas with fecal matter on their shoes.”

**Exposure is Common.** The prevalence of coronavirus, however, is not limited to crowded canine environments. Indeed, some studies have indicated that 90 percent of all dogs are exposed to the virus at some point in their lives. “While the enteric form of the virus is not present in all dogs,” says Dr. Scott, “it is probably present in at least 15 percent or so of the overall canine population and much more prevalent than that in kennels and shelters.”

Conversely, he notes the infection is extremely rare in isolated dogs that do not encounter other dogs or frequent areas used by other dogs. In general, puppies with immature immune systems, geriatric dogs with age-related immunodeficiency, and, as he puts it, dogs that are “stressed” are at elevated risk for experiencing the ill effects of infection.

In addition to the fecal-oral path of infection, Dr. Scott says, it is possible for the virus to be airborne and inhaled, but that is not a major mode of transmission. He also notes that canine coronavirus infection is not a zoonotic disease, meaning that it cannot be transmitted from dogs to humans.

**Fleeting Signs.** Fatalities are extremely rare in cases of coronavirus infection. When a dog has become infected with this virus, it will typically

## Coronavirus: Dog-to-Dog

*The clinical signs may be alarming, but luckily the disease is rarely serious. Here's what you should know.*

An intolerance for certain foods, an abrupt change in diet, the ingestion of bacteria-infested garbage are among the many potential and frequently diagnosed sources of canine diarrhea. Another cause is infection with canine coronavirus — and this is perhaps the most common cause of all.

There are many kinds of coronaviruses, all of which share a characteristic appearance. “Although they vary in shape, the physical structures of these viruses are the same,” explains Fred Scott, DVM, PhD, professor emeritus of virology at Cornell University’s College of Veterinary Medicine. “Each coronavirus is contained in an envelope having distinctive protruding spikes on its surface. When viewed on an electron

photomicrograph, it has a unique radiant aura around it — a corona — like the corona around the sun.”

Like other viruses, coronaviruses are complex submicroscopic structures consisting of genetic material encased in a protein shell. Although more of a chemical than a living creature, a coronavirus has an irrepressible drive to reproduce rapidly and without limit within the body of a host animal.

The specific genus of the virus that causes diarrhea in dogs is known as the canine enteric coronavirus. “Although the enteric form of this virus can grow in other tissues,” notes Dr. Scott, “it has a predilection for the intestinal tract, especially the small intestine, where it can thrive.”



harbor the disease for one to five days before showing any clinical signs. When the infection does become evident, it will do so in the form of mild gastrointestinal distress and diarrhea. The animal's stools will tend to be very loose, yellowish in color and foul-smelling. In relatively rare instances, vomiting may occur. In most cases, the diarrhea will cease within five days or so, although some dogs may continue to experience loose stools for weeks.

"A coronavirus infection in itself is not a serious disease," says Dr. Scott. "It's self-limiting, and treatment is usually not needed. In fact, most of the infections cause no noticeable signs at all. They just come and then soon go away without the owner realizing it."

A coronavirus infection can, however, pose a lethal health threat if it is accompanied by infection with another pathogen. "The most notorious of these pathogens is the canine parvovirus," Dr. Scott explains. "If co-infection occurs, you'll have a far more serious intestinal inflammation, blood in the stool and a high likelihood of severe dehydration." Thus, if a dog's bout with diarrhea is severe, if there is blood in its stool, or if the dog becomes dehydrated, prompt veterinary treatment is required. "A lot of dogs with a coronavirus infection have died when it was accompanied by a parvovirus infection," cautions Dr. Scott.

**Managing the Problem.** "Although the clinical signs may give you a good indication of which virus is present in a dog's system," he notes, "special laboratory tests must be run to determine the exact virus or viruses involved in the infection. A fecal sample may be tested in a veterinarian's office for canine parvovirus infection or a parasitic infestation. Or a fecal sample may be submitted to a veterinary diagnostic laboratory for identification of a causative virus or bacterium."

"Once parvovirus and parasites are ruled out, most cases of canine diarrhea may be treated without specifically identifying the virus or bacterium involved. In some cases, especially in outbreaks involving a number of animals, it is important to know the exact cause or causes."

No specific treatment for canine enteric coronavirus exists, so management

of the condition is purely supportive, focusing primarily on controlling the severity of the diarrhea and minimizing the resulting dehydration.

Is a dog that has recovered from a coronavirus infection vulnerable to repeated bouts of diarrhea and other signs of the disease? "No," says Dr. Scott, "because after the initial infection, the animal develops systemic immunity. Antibodies to the virus circulate in its bloodstream and are present in the mucous membrane that lines its intestinal tract. It is likely to have this immunity for a very long time — probably years. So reinfection is not a significant problem."

**A Debatable Issue.** Vaccines are available that tend to reduce the severity of canine enteric coronavirus infection, but their use is a controversial matter. The majority of these infections occur either without any clinical signs at all or with signs such as diarrhea that disappear quickly. As a result, it is widely thought that vaccines against the infection may have limited value.

"The issue is open to question," says Dr. Scott. "Some people say that all dogs should be vaccinated, while others believe that the decision should be made by the individual veterinarian based on the health and habits of a specific dog. Since the disease is so mild in most cases, vaccination may not be a good idea for every animal."

"In my opinion, vaccination against the coronavirus may be advisable for all dogs in kennels and shelters, but not necessarily for all dogs in the general canine population."

The issue has become "muddled" in recent years, he notes, with the discovery of a new and distinct coronavirus, the canine respiratory coronavirus, which produces disease in dogs. "With this discovery," Dr. Scott predicts, "there's likely to be a lot more research done on the canine coronaviruses, and this could affect current attitudes and recommendations regarding vaccinations."

For now, Dr. Scott advises, "Dog owners should not view the canine enteric coronavirus as one of the very important viruses. Since it does not produce serious disease in most cases, it's not something that owners should be overly concerned about." ♦

## APPROACHING STRANGE DOGS ...

(continued from page 3)

and soft as you speak, but don't use babytalk or a squeaky, high-pitched tone.

You should keep your interaction short and low-key, then thank the owner and walk away.

**An Unleashed Dog With Owner Present.** Thanks to the proliferation of off-leash dog parks and trails in this country — and the unwillingness of some owners to obey local leash laws — it's not unusual to encounter dogs running free with the owners close behind. In this situation, never initiate an interaction with the dog, even if he seems friendly.

"You should simply ignore him," says Dr. Houpt. Because the dog is not under leash control, the owner is usually in no position to intervene if the dog suddenly becomes scared or aggressive. Attempting to get to know a strange dog in this situation can be fraught with complications. For example, the dog may feel threatened or may feel protective of his owner and compelled to take action.

If the dog approaches you and is clearly friendly, the safest course of action is still to resist the urge to pet or play with him. Keep your body language casual; don't make direct eye contact; acknowledge the dog with a light and soft voice ("Hi, pooch, you're awfully cute,") and continue on your way.

**An Unleashed Dog With No Owner Present.** This situation represents the most dangerous one with a strange dog. You have no way of knowing the dog's temperament, other than by attempting to read his body signals. But these signs can be confusing and aren't always present, so it's best to avoid any contact with a free-roaming dog. If the dog approaches you and you believe he's aggressive, "Stand still and avoid eye contact," says Dr. Houpt.

If you are bitten, thoroughly wash the wound as soon as possible with soap and warm water and seek medical attention. You should also report the bite to your local animal care and control agency; relate everything you know about the dog, including a description of the animal, where you saw him, whether you've seen him before and the direction in which he went. ♦



**EAR DISEASE...** *(continued from cover)*

**Delicate Equipment.** Canine ears, like those of other mammals, comprise three structural areas: the outer ear, middle ear and inner ear.

In one important respect, the anatomy of the canine ear differs significantly from that of other mammals, and this difference works both to a dog's advantage and disadvantage. In a human, the canal leading from the outer to the inner ear travels in a directly horizontal line; in a dog, the canal travels vertically downward from the outside before making a sharp turn and proceeding to the ear drum. While this bidirectional channel may protect a dog from injury to its inner ear, it also encourages the collection of dirt, wax, and infectious debris at the juncture of the vertical and horizontal segments of the canal.

**Congenital or Acquired.** Canine deafness can be either congenital or acquired. Congenital deafness is most often caused by the lack of cochlear hair cells, resulting in hearing impairment that progresses during a puppy's early postnatal development.

In adulthood, a dog's loss of hearing may result from any of several insults to its outer, middle, or inner ears. For example, the application of certain antibiotic medications to treat severe ear infections can destroy cochlear hair cells;

and in rare instances, an anesthetic used during ear or tooth cleaning can, for unknown reasons, cause bilateral deafness.

Noise trauma can result in temporary or permanent deafness as well. In an animal with normal hearing, tiny muscles in the middle ear contract to reduce the transmission of extremely loud sounds to the inner ear that would reduce hair cell functionality. But in the case of an extremely loud and percussive noise, such as that accompanying gunfire or an explosion, the sound waves may enter the ear too suddenly for this protective reflex to function.

The aging process can also affect canine hearing. As dogs grow older, the number and sensitivity of their cochlear hair cells gradually declines. The slowly progressing deafness that results will commonly manifest itself in dogs eight years of age and older.

Among all acquired ear disorders that can be problematic for a dog, otitis externa — an infection of the outer ear canal — is the most common. If untreated, the infection can progress to otitis media (in the middle ear) and otitis interna (affecting the inner ear). Otitis is most often caused by bacterial infection resulting from a change in the microclimate of the outer ear canal. This change is fostered by the accumulation of ear wax and other debris in which invading bacteria and other microorganisms can flourish.

**Surgical Intervention.** Treatment of otitis externa is usually a fairly simple matter, involving the use of antibiotics or antifungal medications. In some cases, however, medical management is unsuccessful, and the tissues of the canals in both ears can be permanently and irreversibly damaged. If all medical treatment options have been exhausted, says Dr. Flanders, otitis externa can often be successfully managed with surgical intervention.

"The cartilage in the ears can undergo mineralization," he explains, "and can eventually become ossified. The tissue lining the ear canal can become so swollen from inflammation that it can completely block the canal. When that occurs, the owner can have a very difficult time getting medication into the dog's ear."

If the ear canal is completely blocked with inflamed tissue and does not respond to medical treatment, then a type of surgery called a total ear canal ablation is likely to be recommended. Dr. Flanders describes the operation as follows: "First, we surgically remove the entire ear canal — both the vertical and horizontal parts. Then we open the middle ear chamber, which is usually filled with infected fluid and pus, remove any inflammatory material, and flush the chamber with saline solution. The skin is then closed over the area from which we removed the outer ear canal."

With excision of the outer ear canal, the patient will no longer have an eardrum or ossicles, he notes, and will thus be permanently deaf in that ear. "But a dog that needs this type of surgery," he says, "is essentially deaf before we do the operation, since the chronic infection has already destroyed all of the structures in the middle ear."

Another type of surgical procedure undertaken to relieve canine ear infections is a so-called ventral bulla osteotomy. "Some dogs only get otitis media," explains Dr. Flanders. "The outer ear is fine, but infection is rooted in the middle ear. So we go in surgically and drain the middle ear." This is a delicate surgical procedure, he notes, because the target area is near the nerves that govern an animal's sense of balance.

Owners should understand that these and other surgical procedures are considered only after all efforts to remedy a condition with the use of medicines have been exhausted. ♦

**RECOGNIZING THE EARLY SIGNS OF EAR PROBLEMS**

The typical early signs of canine ear abnormality should be obvious to the attentive owner. An affected dog is likely to shake its head persistently, and scratch at one or both ears. It may behave in an uncharacteristically lethargic manner, may fail to react to voice commands and may respond as if in pain when its ears are touched. On close inspection, the owner may see that the skin on the underside of the dog's ears is inflamed or swollen and that a foul-smelling discharge has collected in the outer ear canal.

Veterinary diagnosis will usually entail a review of an animal's medical history and a thorough physical examination, with special attention given to the affected ear or ears. For this, the veterinarian is likely to use an otoscope, a flashlight-like instrument that provides a magnified view of the ear's inner depths. (In some cases, the use of an otoscope may be painful, and the animal will have to be sedated or anesthetized for the procedure.)

In addition, a definitive diagnosis will often require a microscopic examination of material that has collected in the ear canal. This will help determine the type of medication that should be used to treat the infection.



## URINARY DISORDERS ... (from cover)

Although acute renal failure sometimes stems from blockages that interfere with the flow of blood to the kidneys or the flow of urine from them, the most common cause is the ingestion of substances that are toxic to the kidneys, such as pesticides, antifreeze, cleaning fluids, and some medications developed for use by humans, such as ibuprofen. If untreated, acute renal failure may progress rapidly and prove fatal. But if diagnosed and promptly treated, kidney damage can be reversible and the prognosis for full recovery can be good.

Chronic renal failure, however, is a different matter. An incurable condition that mainly affects older animals, it occurs when 70 percent or more of functional kidney tissue has been destroyed and replaced by scar tissue. Its exact causes are often unknown, but it is usually the endpoint of a chronic progression following insurmountable acute damage from a variety of kidney infections, toxins, inflammatory conditions, and obstructions. Conditions such as dermatitis, dental disease and diabetes are frequently associated with chronic renal failure as well.

By the time a dog is showing signs of late-stage chronic renal failure, the loss of healthy kidney tissue will often preclude effective treatment and little can be done to prolong the patient's life. If the signs are detected early enough in the disease, however, aggressive veterinary treatment can extend an animal's life, sometimes by a few years or more.

**Lower Tract Conditions.** Bacterial infection is the most frequently occurring source of lower urinary tract disorders in dogs, especially in females and in dogs with serious underlying conditions, such as diabetes.

The second most common lower tract disorder is incontinence — a dog's inability to maintain control over its urine flow. This condition usually involves the urethral sphincters — rings of elastic tissue around the urethra that normally relax or tighten as needed in order to permit or shut off the flow of urine. Incontinence is usually evident in the unconscious release of urine from the bladder, which may occur when a dog is either awake or asleep. In some cases, the condition may result from a deficiency in the nerves that control urine flow. In most cases, however, the disorder stems from congenital anatomic abnormalities involving the bladder muscles or the urethral opening.

Another relatively common disorder is an ectopic ureter — a congenital malformation in which the tubes that are supposed to carry urine to the bladder in the lower tract bypass that organ and empty instead into the urethra. The result is a constant dribbling of urine that is unpleasant for dog and owner alike. One or both ureters may be involved, and surgery to correct the defect is possible, though not always successful.

The lower urinary tract may also be affected by the development of stones, which can occur as a byproduct of bacterial infection or other conditions. In a male, these stones can become lodged in the urethra and block the flow of urine. This is a truly life-threatening emergency that requires immediate veterinary attention.

In addition, he points out, the entire urinary system can be affected by cancerous growths, those that originate in the system as well as those that have spread to it from other areas of the body. The most common cancer sites are the urethra and the bladder, although such growths frequently affect the kidneys and ureters as well.

Approaches to treating the wide variety of urinary tract diseases — both upper and lower — will vary depending on the scenario. ♦

## THE SIGNS OF TROUBLE

Disorders affecting the canine urinary system can arise from a wide variety of sources, including congenital malformation, infectious disease, tumor development and injury. In many instances, the clinical signs associated with urinary system malfunction can be traced to a minor and readily remedied problem — an easily treated infection, for example.

In others, however, a complex, serious and potentially life-threatening illness — one that severely jeopardizes a dog's vital functions — may be present, in which case emergency veterinary care is absolutely crucial.

Noticeable weight loss, increased drinking and urination, lethargy and vomiting are the warning signs of canine urinary disease. But they also can signal the presence of many other illnesses.

In any case, if you notice, for instance, that your dog is lethargic, is losing weight, is not eating normally but is drinking a lot of water, is urinating more often than normal, leaking urine or straining when it urinates, take the animal to your vet as soon as possible.

Regarding all urinary tract diseases, including cancer, experts stress that early recognition and prompt veterinary care are bound to improve a dog's chances of survival and its return to good health. has been complete and successful. If the malignant tumor is small and can be totally removed, there's a good chance that the growth will never recur.





## ASK THE EXPERTS



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or health questions to:*

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*We regret that we cannot  
respond to individual  
inquiries about canine  
health or behavior matters.*

**Q** I have a very unusual situation. We have an 11-year-old Schipperke, Bucca, that we rescued. She guards a few locations in our home with her life. We also have a male boxer, Garth, that we took in from a backyard breeder. He is seven years old and very aggressive. When he was a pup, our neighbor's three dogs rushed our fence every time Garth was out. As an adult, Garth does not like other dogs. We also brought a female boxer, Jada, into the family three years ago. She was brutal in establishing top rank among the dogs, but finally the male gave in, letting her be top dog after many bloody fights. We still have some fights — but manage to stay in control as long as we know what not to let them do.

Here is my problem. Eight months ago, I rescued a young pit bull mix, Maxfield. I have had him in two kennels during this time. Because of legal problems with a rescue group, this last kennel will not let any foster dogs stay there anymore. I will need to relocate him, and it has been very difficult to find a foster home or another kennel.

Since I have very few options, I will have him stay with me. I am thinking about introducing him to my group by using muzzles. In doing so, I think that I may only be teaching Maxfield to be aggressive, not a good trait for a Pit Bull looking for a home. Is there hope in trying to introduce him to the group and letting him stay at my house until he is adopted?

**A** You are a very generous person to take Maxfield into your home, and you are right to be worried about fighting. For a complex situation like this, it would be best to have a consultation with a board-certified animal behaviorist. We'll try to give you some guidelines, however. Introducing a new dog into a household that already has an interdog aggression problem will result in a reestablishment of the hierarchy, and that might involve fighting.

The first thing to consider is their safety and yours. Muzzles may be used to prevent biting among these dogs. Incidentally, the use of muzzles will not make a dog more aggressive. All the dogs should wear muzzles initially. To accustom them to the muzzles, smear cheese or peanut butter at the end and hold it on the dog's face as he licks it. Repeat this at least half a dozen times before buckling the collar on snugly. Once Maxfield and the others become accustomed to wearing their muzzles, they can be introduced; this is the safest way to prevent injury. Be sure you use basket muzzles so that the dogs can eat, drink and pant while wearing them.

When you are introducing the new dog to the other three dogs, it would be best to do so to one dog at a time and away from your property, where your dogs will be more territorial. I would introduce them in reverse order of dominance — first the Schipperke, Bucca, then the male Boxer, Garth, and then the female Boxer, Jada. If possible, have one person hold one dog on a leash. As Maxfield and Bucca approach one another, give them cheese through the muzzles. If they eat, they are not too aroused. If they won't eat, you have them too close and must start again at a greater distance. When Maxfield and Bucca are willing to walk beside one another without aggression, you can work with Garth, and then work with Jada.

When all three have been introduced to Maxwell in that manner, try introducing two dogs. Unless you have help, tie the two dogs and walk the third up to them with treats given immediately as you approach. When all four dogs can be walked together, it is safe to let them in the house, but again, I would introduce Maxfield and one of your dogs at a time in the house, and they should still be muzzled. Use a DAP (dog-appeasing pheromone) diffuser to help calm the dogs. If they are not aggressive on-leash when all four are in the room, you can try dropping the leashes, but be prepared to pull one dog away if growling begins.

Don't yell at them, because that will make them more aroused and aggressive. Just pull them apart, and isolate the aggressor in another room for a five-minute time out. Let him or her out only if the dog is quiet. This will be a lengthy process but should be well worth it for you.

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