

# Newsletter of the COMMUNITY PRACTICE SERVICE

College of Veterinary Medicine, Washington State University  
www.vetmed.wsu.edu/ClientED/community\_practice.asp

Winter 2007-08

## Urinary tract obstructions a common problem in male cats

Cats can be affected by several urinary tract problems in the lower end of the system from the bladder to the urethral opening. These problems include urinary tract infections, bladder stones, bladder tumors in older cats, and an inflammatory disease of the urinary bladder called interstitial cystitis. In addition, feline lower urinary tract disease is a common condition diagnosed in male cats. In this case, the urethra, or the tube that carries urine from the urinary bladder to the outside, becomes obstructed.

"Obstructions are a common problem of the lower urinary tract that we see in male cats," said Dr. Matt Mickas, head of the WSU Community Practice Service. "The condition can occur rapidly. Common clinical signs may include a cat that is straining to urinate, such as if it goes in and out of the litter pan trying to urinate with little production, urinating in abnormal places, dribbling urine in the house, and blood in the urine.

"Sometimes the condition progresses to the point where the cat is unable to urinate because the urethra becomes totally obstructed with urine crystals or bladder stones and urethral inflammation. The bladder quickly becomes filled with urine, which can cause the cat to become increasingly sick with associated abdominal pain and urinary spasms," he said. "This is a dangerous condition because it can increase the levels of potassium in the blood. Elevated potassium can cause heart arrhythmias that may result in death. Irreversible kidney damage or renal failure may also occur."

Jack is a domestic short-hair cat from Pullman that was recently treated at the WSU Community Practice Service for a blocked urinary tract. "He was an indoor/outdoor cat that normally urinated outside, so his family wasn't aware that he was having difficulty urinating," Dr. Mickas said. "In Jack's case, the clients noted that he was lethar-

gic and was very painful when he was touched, especially around the abdomen."

At the hospital, Jack was examined and found to have bladder distension and bloody urine with crystals on the hair around the penile region, characteristic for a urinary tract obstruction. To help relieve Jack, analgesics were given and anesthesia was performed to place a urinary catheter. Soon, he passed bloody urine with crystals in it. Jack was treated with intravenous fluid therapy

to help return his system to a more normal function through his kidneys. The urinary catheter allowed larger crystals to pass, too. He also received anti-inflammatory and analgesic medication to help with pain, and anti-spasmodic medication to calm his urinary tract and prevent spasms.

"Sometimes, we also administer antibiotics because patients can contract infections above the bladder when we pass the urinary catheter into the inflamed, debilitated, distended urinary bladder," Dr. Mickas said.

A urinalysis showed an elevated pH level in Jack's

urine. The pH level in urine indicates how acidic or alkaline it is. The higher the pH, the more alkaline the urine is, and the lower the pH, the more acidic the urine is. Crystals form in excessively acidic or alkaline urine, which can lead to inflammation and eventual obstruction.

"In Jack's case, a common crystal type resulting in urinary tract obstruction was found. These are usually formed in alkaline urine, so a major portion of therapy was aimed at acidifying the urine to dissolve crystals and prevent their formation," Dr. Mickas said. "This can often be accomplished with a prescription diet. Cats with recurring obstructions may also be helped with a surgery



Dr. Mickas checks Jack over after his recovery.

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To make an appointment call:  
**509-335-0711**



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Community Practice Service is published four times a year by Washington State University, PO Box 645910, Pullman, Washington 99164-5910. Issue No. 12. Phone: 509-335-0738. To subscribe, contact Emmy Widman at esunleaf@vetmed.wsu.edu or 509-335-5389.

12/07 121127

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## OBSTRUCTIONS | *continued from page 1*

to enlarge the urethral opening. Surgery may also be required for some cats to remove bladder stones.”

Jack was hospitalized at the WSU Veterinary Teaching Hospital for two days. He received medicine for about a week after going home, and after that, his recovery included a prescription diet.

“The therapeutic diet prescribed to Jack is designed to help him produce dilute urine with a lower pH,” Dr. Mickas said. “His family brought him back two weeks later for a checkup and he was doing great. The only difficulty was that Jack did not find

his new diet to be palatable. Fortunately, there are multiple high quality diets that are available for his condition.

“There is no absolute way to prevent urinary tract problems or urinary tract obstructions,” Dr. Mickas said. “To potentially minimize the number of cases of urinary tract obstructions we see at the veterinary hospital, we encourage clients to provide their cats with a well-balanced high quality diet and consistent clean, fresh water to drink. It is also important to provide a clean and adequate size litter box or multiple if necessary, and an environment that is as stress-free as possible, especially around the litter pan.”

## WSU's Veterinary Teaching Hospital Pharmacy

Sometimes, being a pharmacist at WSU's Veterinary Teaching Hospital must be like being aboard Noah's ark. Every day, a myriad of animals are treated there. Regardless of the species, size, weight, and metabolism, all client animals in need of medication are served through the WSU veterinary pharmacy, located within the veterinary teaching hospital.

It is the only full-service pharmacy in Washington dedicated exclusively to animals and is open Monday through Friday from 8:00 a.m. until 6:00 p.m. to provide for the medication and special dietary needs of our clients. Additionally, a pharmacist is typically available after hours to accommodate emergency situations.

Due to state and federal regulations, the VTH pharmacy can only offer prescription-filling services for owners of animals that are clients of the hospital.

The pharmacy staff includes full-time, licensed pharmacist Jim Meyer, half-time pharmacist Maggie Cooke, and pharmacy technician Janet Van Nuland.

As the hospital's medication experts, they work closely with WSU veterinarians and staff to ensure that medications used in the hospital are safe and effective.

Among their many responsibilities, the WSU pharmacy staff formulates medications and oversees medication administration and quality control. On average, they fill approximately 120-150 prescriptions a day. In addition, prescription diets are also available for canine and feline patients of the hospital.

As part of the College of Veterinary Medicine's instructional program, WSU pharmacists also educate and train fourth-year veterinary students about the important fundamentals of drug

preparation, including compounding and dispensing medications. “Our pharmacists have a broad background in pharmacy and contribute to the medical care of our patients,” said Dr. Harmon Rogers, director of the WSU Veterinary Teaching Hospital. “We would be much less without them.”

“Their job is very complex and a large importance is placed on the formulations of medications,” he said. “The hospital

treats a huge spectrum of patients, like mice, birds, cows, horses, reptiles, and so on. These different species have greatly different characteristics in terms of how medications metabolize in their systems. Most species are warm-blooded mammals, and some are cold-blooded reptiles. The metabolism and digestive processes are quite different between a reptile and mammal, and even between a warm-blooded herbivore or warm-blooded carnivore.

“To add to the complexity of medication formulations, the weight and size of each patient needs to be considered, from mice that weigh a few

ounces to bulls that weigh over a ton,” Dr. Rogers said. “Palatability for oral medications is also a consideration because what tastes good to a dog may not taste good to an eagle. In addition, many patients have complex medical problems that have to be taken into account, and methods or therapies for treating problems like heart disease or cancer may still be developing. This makes the pharmacy very important in the treatment of our clients.”

For more information, contact the VTH pharmacy at 509-335-0736 or look online at [www.vetmed.wsu.edu/depts-vth/pharmacy](http://www.vetmed.wsu.edu/depts-vth/pharmacy).



**WSU Pharmacy staff (left to right) Jim Meyer, fourth year veterinary student Jarret Dod, and Janet Van Nuland.**

## WSU People-Pet Partnership offers pet curriculum for kids

Animals are fascinating, and having companion animals makes peoples' lives more interesting and fun. To fully benefit from these relationships, it is essential to take good care of pets. That is the goal of a new online curriculum for children developed by the People-Pet Partnership (PPP), a public service program within the Center for the Study of Animal Well-Being at Washington State University's College of Veterinary Medicine. It includes four educational lessons for children in kindergarten through 4th grade to help them become responsible and caring pet owners.

The lessons are age appropriate and aligned with the National Science Education Standards (NSES). The lessons can be found online at [www.vetmed.wsu.edu/depts-pppp/child.aspx](http://www.vetmed.wsu.edu/depts-pppp/child.aspx). The different modules involve complex tasks based on challenging problems. Children at home or in the classroom are involved in problem solving, decision making, and investigative activities related to the proper treatment of animals.

For each grade level, there is a brief introduction presenting the concepts addressed in the section. A mascot guides the children through the web site. A tutorial follows the introductory section and the information is broken down into pieces that children can easily assimilate. The children are then given the opportunity to use this new knowledge through educational games, helping them integrate the different concepts. For K-1 and 2nd grade levels, supplemental games incorporating math, English, science, and art are also included.

"It is our hope that this educational Web site will provide the children with new and interesting information," said Francois Martin, project coordinator and adjunct faculty member of the PPP program at WSU. "The information and activities found in this Web site will probably generate questions or comments from children. We suggest that parents and educators accompany children while they are

visiting PPP's educational site. Children often want to share their new knowledge with others, and will probably have a story or two about animals to tell. This may in turn generate stimulating discussion at home or in the classroom."

In the first section of the curriculum (K-1), children get acquainted with pets. They learn the difference between a pet, farm animal, and wild animal. They are also introduced to the importance of carefully selecting companion animals according to their family's life style. In the second grade curriculum, children are introduced to a special type of pets: little critters. During their visit, children will learn about how to care for and safely handle little critters. Third graders become familiar with domestic cats. Children learn about cats, their behavior, biology, and history. The fourth grade curriculum presents information about the history and care of dogs and explores the relationships between people and dogs. The Web site also includes additional information for parents and teachers.

Development of the programs for grades 1-3 is sponsored by the Kenneth A. Scott Charitable Trust, a KeyBank Trust. The development of the 4th grade curriculum is sponsored in part by the Banfield Trust.

PPP exists to research and educate people about the human-animal bond, or the mutually beneficial and dynamic relationship between people, animals, and their environment. It promotes the humane treatment of companion animals through public services, including the Pet Education Partnership to teach children about responsible pet ownership. In addition, the Palouse Area Therapeutic Horsemanship program provides recreational therapeutic horseback riding to people with emotional, mental, and physical disabilities.

For more information about the online curriculum or other programs, contact the PPP at 509-335-7347 or visit [www.vetmed.wsu.edu/depts-pppp](http://www.vetmed.wsu.edu/depts-pppp).



### Getting Acquainted with Pets



### Little Critters as Pets



### Cats as Companion Animals



### Dogs as Companion Animals

# Vaccination Recommendations for 2007



Dogs and cats are susceptible to contagious diseases, usually caused by viruses. Fortunately, there are vaccines available to help protect pets against them. Immunizations begin when a puppy or kitten is just a few weeks old. To keep pets guarded against disease, it is important to maintain an appropriate vaccination schedule.

Sometimes, specific vaccine recommendations change because of studies that reassess and determine duration of immunity of vaccinations. WSU's Community Practice adapts vaccine recommendations as new information emerges. In addition to standard recommendations, each individual animal's needs, based on risk and lifestyle, are taken into consideration before determining what vaccine to give and how often it needs to be repeated. Here are the current guidelines we recommend:

## Cats

### Rabies

All cats should receive rabies vaccination. Rabies causes a fatal brain infection that can also infect people. The hazard to human health is too great to risk having an unvaccinated cat as a pet. A recombinant rabies vaccine is available that minimizes tissue irritation at the injection site. This vaccine should be administered in kittens at 14 weeks of age and annually thereafter.

### FVRCP

Feline Viral Rhinotracheitis, Calicivirus, and Panleukopenia vaccination should be given to all kittens and adult cats. These diseases are very serious and often highly contagious. Feline Viral Rhinotracheitis causes severe upper respiratory illness and corneal ulceration due to a feline herpes virus. Calicivirus causes upper respiratory illness and ulcers on the tongue and in the mouth. Panleukopenia, also known as feline parvovirus, causes significant diarrhea, vomiting, and bone marrow suppression.

Kittens are scheduled to receive this vaccine at eight weeks of age, followed by boosters at 11 and 14 weeks of age. Since duration of immunity is uncertain, this vaccine is recommended to be administered annually. WSU uses an intranasal vaccine, with the most common side effect being mild post-vaccination sneezing. The FVRCP injectable vaccine is used on a limited basis due to the potential risk of tumor formation at the injection site and a risk for kidney disease.

### Feline Leukemia Virus (FeLV)

Several types of FeLV cause immune suppression, cancer, and anemia. It is fatal to many cats, especially kittens that develop the disease. Depending on how endemic it is to a particular area and the indoor/outdoor lifestyle of a cat, this vaccine should be administered to at-risk kittens at 11 and 14 weeks of age and annually thereafter. The vaccine is only necessary for cats

directly exposed to other cats. FeLV can only be transmitted by direct contact with an infected cat shedding the virus, so indoor cats that do not come into contact with outdoor cats do not need to be vaccinated for FeLV. In this case, the risk of an adverse reaction such as an injection site tumor outweighs any potential risk of the disease. It is also important to remember that this vaccine is not 100 percent protective. Cats that are vaccinated but exposed to diseased cats may still run the risk of contracting FeLV. Currently, WSU administers a recombinant transdermal vaccine that avoids the use of a hypodermic needle.

### Feline Immunodeficiency Virus (FIV)

FIV attacks and weakens a cat's immune system and makes it susceptible to many infections and diseases. This virus is primarily transmitted by bite wounds from an infected cat. The current test for FIV cannot distinguish a vaccinated cat from an infected cat. Therefore, it is recommended that cats vaccinated against FIV be identified with a microchip or other form of identification such as a tattoo. The FIV vaccination is not currently administered at WSU unless a significant risk for FIV contact has been determined.

Although there are other vaccines available for cats, there are no other vaccines we feel are both safe and effective for routine administration.

## Dogs

### Rabies

Rabies vaccination should be administered in all dogs. The initial vaccination is given at approximately 14-16 weeks of age. After the first vaccine is given, a booster is given in one year, then every three years.

### DA2PP

This vaccine protects against Canine Distemper, Adenovirus, Parvovirus, and Parainfluenza. Canine Distemper is a highly contagious and often fatal disease that attacks the respiratory, gastrointestinal, and nervous systems of puppies and dogs. Adenovirus causes severe liver disease, Parvovirus causes severe intestinal illness with vomiting and bloody diarrhea, and Parainfluenza causes respiratory infection.

DA2PP vaccination is recommended for all dogs. The general schedule for a puppy is to receive this vaccination at 8, 11, and 14 weeks of age, followed by a booster in one year. How often the combination vaccine should be boosted is based on each dog's individual general health status and exposure risk. In general, after the booster received one year after the initial puppy series, it is recommended that this vaccination be administered every three years. However, annual vaccination of dogs in higher risk categories may be recommended.

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## VACCINATIONS | *continued from page 4*

### Leptospirosis

Leptospirosis is a serious disease of dogs that causes severe kidney and liver damage. It is also contagious to humans through contact with dog urine. All dogs with any risk of exposure should be vaccinated. The first set of vaccinations is administered at 11 and 14 weeks of age in combination with the DA2PP vaccination. Then the vaccination is administered annually. The leptospirosis organism is found in standing water. Domestic animals, wildlife, and rodents are reservoirs for the microorganism in the environment. While the vaccine does not protect against all forms of the organism, it does protect against several types that cause serious disease in humans and dogs. We are currently recommending a four-way vaccine for leptospirosis for dogs at risk of exposure. We highly recommend that hunting dogs be vaccinated just prior to hunting season.

### Bordetella (Kennel Cough)

Bordetella causes tracheobronchitis, known as kennel cough, which results in a severe chronic cough in dogs. This vaccine is recommended only for dogs at higher risk for disease such as dogs that are kenneled, involved in puppy classes, or involved in shows. It is recommended to be administered at least one week before potential exposure, such as if a dog will be boarded, groomed, or starting obedience classes. The vaccine is protective for about four to six months. The vaccination can be administered as early as 8 weeks of age. This is not considered to be an annual vaccine.

There are no other vaccines that are indicated for dogs in eastern Washington or the surrounding area. If you have any questions about which vaccines are appropriate for your pet, feel free to contact the WSU Community Practice Service at 509-335-0711.

## Winter pet tips

Each winter, we all make preparations for the cold months of the year. Sometimes, it can be easy to overlook the needs of our animals during this busy time. Remember, whether it is family pets, horses, or other livestock, they need sound nutrition, good shelter, a fresh and ice-free water supply, and protection from other animals. Here are some quick tips:

- Placing a door on your dog's shelter or house and providing warm bedding will go a long way to help your pet combat the cold.
- Heated pet bowls prevent water from freezing, and plastic bowls are better than metal to prevent a pet's tongue or lips from sticking when it is cold.
- Active outdoor pets may need extra calories during the winter because they use more energy to keep warm.
- After walking a dog in winter weather, be sure to wash off rock salt or deicers that may stick to their feet.
- Hunting or active outdoor dogs should be checked over daily for sporting injuries and foreign objects such as grass awns that may become lodged in the feet, ears, eyes, and nose.

- Provide pets with plenty of attention and a quiet space to go to and feel safe during noisy and busy holidays. Keep potentially hazardous decorations and holiday foods away from your pets and out of their mouths, including ornaments, string lights, tinsel, plants such as mistletoe, and chocolate.
- Before giving a pet as a gift, be certain it is a welcomed and expected gift. Every year, pets given as unwanted gifts end up in shelters or worse, being destroyed.



## Do microchips pose a cancer risk to pets?



As long as people have owned pets, they have struggled with identification. While collars and tags have their place, microchips provide the only permanent, positive form of pet identification available today. About the size of a grain of rice and inserted under the skin through a needle,

microchips provide a unique code that matches owners to their animals should they become lost or stolen.

But do they pose a health risk to pets? In short, no. However, recently people might be led to think otherwise due to studies widely reported in popular media that warn of risks associated with implanting microchips in pets, and by extension, people.

"The studies reported by the media were conducted in rodents and did not meet a sound scientific approach necessary to begin issuing legitimate product safety warnings," said Charlie Powell, public information director at the WSU College of Veterinary Medicine. "Any indication of any significantly increased risks to pets is, at best, premature and, at worst, totally uncalled for at this time.

"For decades, there have been competent scientific reports of cancer caused by almost any manner of implant or foreign object within the body of animals and people," he said. "What is

important is that upon close examination, the risk to animals is so extremely low as to be non-existent for any practical purpose, especially any risk from microchipping. This includes cases referenced by media recently.

"The risk of a pet being separated from its owner with all attendant hazards is tremendously greater than any known risk for cancer formation from any approved veterinary implant known at this time, including microchips," Powell said. "At this time, and despite current media activity, there is no competent medical reason to recommend not placing a microchip in a pet."

Owners can also consider more than one type of identification. Tags get lost, microchips occasionally migrate, and tattoos can fade. But taken together, redundant identification is probably best. To learn more about inexpensive microchips, or other forms of identification, contact us at the Community Practice today.

**Want to know more about the Community Practice and small animal specialty services, or receive our quarterly newsletter online?**

Check out the WSU Veterinary College Web site at [www.vetmed.wsu.edu/depts-vth/smallAnimalServices.aspx](http://www.vetmed.wsu.edu/depts-vth/smallAnimalServices.aspx), or subscribe to the online newsletter at [www.vetmed.wsu.edu/depts-vth/newsletters/online.asp](http://www.vetmed.wsu.edu/depts-vth/newsletters/online.asp).

Also feel free to call 509-335-0711 for **veterinary appointments or emergency care.**

## Grieving? You don't have to be alone

Have you lost a beloved animal companion? Perhaps you know someone who has. The WSU College of Veterinary Medicine has a Pet Loss Hotline for those who would like to reach out for a caring listener. WSU's Pet Memorial Program also offers families a wonderful way to memorialize and celebrate the life of their pet while supporting the education of future veterinary care providers.

To contact the Pet Loss Hotline, call 509-335-5704 or e-mail [plhl@vetmed.wsu.edu](mailto:plhl@vetmed.wsu.edu).

For more information about the WSU Pet Memorial Program or to make a donation, contact Tim Osborn at 509-335-9516 or [tosborn@vetmed.wsu.edu](mailto:tosborn@vetmed.wsu.edu). Information can also be found online at [www.vetmed.wsu.edu/depts-prd/memorial.aspx](http://www.vetmed.wsu.edu/depts-prd/memorial.aspx).