In March, Washington State University’s College of Veterinary Medicine signed an agreement to open a satellite clinic at WSU’s Riverpoint campus in Spokane within the next year. The development and operation of the clinic will be aided by $3.5 million in private gifts. A $2.7 million estate gift from Dr. Bernard Pinckney, 1944 WSU veterinary alumnus, stipulated that his gift was to be used to establish a satellite clinic to offer continuing education opportunities for students and practitioners.

An additional $800,000 for the project is provided by the estate of former West Richland, Washington, resident Charlotte Hays. Hays’ estate provided almost $1 million to WSU. The Hays estate gift came to the veterinary college thanks to her long time association with Dr. James Benson of Richland, a 1969 WSU veterinary alumnus.

On January 30, the WSU Board of Regents approved a $1.75 million construction budget for a major renovation project of an existing 7,000 square foot building owned by WSU. It is located at 218 East Spokane Falls Boulevard and was previously occupied by BPS Plumbing. The remodeled building will feature space for four to six contract veterinarians, and will also include exam rooms, basic radiologic services, and two surgery suites. An outpatient facility only, the clinic will not provide extended hospitalization services.

Additional support for the project comes from the WSU Minor Capital Improvement program and extramural instructional support for the WSU College of Veterinary Medicine. Construction is slated to begin soon and the College of Veterinary Medicine hopes to open the clinic by December.

“Dr. Pinckney was a remarkable veterinarian and a generous donor,” said Bryan Slinker, dean of WSU’s veterinary college. “Donors like him and Ms. Hays are the lifeblood of our college’s ability to innovate and move forward even in these troubled financial times.”

Slinker emphasized the importance of continuing to look for opportunities and ways to advance the college in times of economic turmoil.

“Moving forward in a responsible and measured manner is important for advancing any institution,” he said. “Being able to find reasonable opportunities in troubling times is often what separates great educational institutions from the rest.”

A 1944 alumnus, Pinckney practiced for more than five decades in his Tacoma clinic. He also spearheaded several public art projects that resulted in a larger-than-life bronze sculpture, The Caring Call, being installed on the WSU campus in Pullman.

The satellite clinic will enable the college to provide WSU veterinary students with additional training opportunities in specialized fields of veterinary medicine, while offering advanced services to the public. The clinic’s focus will be on outpatient care in specialties that include:

- Community Practice Services
- Cardiology
- Dermatology
- Surgery
- Internal Medicine
- Radiology
- Cytology
- Emergency Medicine
- Preventive Medicine
- Environmental Medicine
- Laboratory Services
- Food Animal
- Companion Animal
- Wildlife
- Aquatic

In this issue:

WSU veterinary college to open Spokane clinic with $3.5 million gifts
Does my pet need preventative heartworm medication?
Veterinary cardiologist discovers gene for heart disease
Ear infections are a common problem for dogs and cats
What to do if you find a growth on your pet
Grieving? You don’t have to be alone
Thick hair and warm weather increase instances of “hot spots”
Does my pet need preventative heartworm medication?

Pets that live in Washington do not need heartworm medication unless they travel with their owners to areas where heartworm disease is a risk.

Heartworms are spread through mosquitoes. Areas with the highest risk are coastal regions in the southern half of the United States with wet, warmer climates, especially the southeast. Cases of heartworm have been reported in all 50 states, but affected pets often acquired an infestation after having traveled to areas where heartworm is prevalent.

Rarely is a case of heartworm detected in Washington. While the reason is not known exactly, it is likely that this state’s climate does not support an active population of mosquitoes long enough for the parasite to maintain its complex life cycle. There’s also no evidence there is any increase in new cases. Professor William J. Foreyt, a parasitologist at WSU’s College of Veterinary Medicine and a heartworm authority, has studied the subject for more than 30 years.

He says regions of the state (Tri-Cities, Othello/Moses Lake, and the Yakima Valley) support populations at least three species of mosquitoes that can carry and support the development of the heartworm parasite. Washington likely doesn’t experience sustained environmental conditions (sufficient heating, known as degree-days, moisture, moderate temperature fluctuations, etc.) that support a threshold population of any of these. In communities where a case has been diagnosed on an intermittent but recurring basis, subsequent seasons haven’t shown increasing or sustained caseloads.

Dr. Foreyt has concluded a multi-year heartworm incidence survey of harvested, free-ranging coyotes primarily from eastern Washington and the areas where an occasional case is reported in dogs. He examined more than 600 susceptible coyotes after death and found no heartworm.

Typically, Washington dogs with heartworm have relocated to the state from known heartworm regions. Diagnosis has still been very uncommon and occurs most often on or around military installations and communities with a migrant population.

The Washington Animal Disease Diagnostic Laboratory at Washington State University’s veterinary college reports an incidence of about one confirmed canine case per decade and those animals are usually infected elsewhere before coming to the state. The laboratory has seen no cases this year.

Heartworms can cause numerous problems and are potentially lethal as they can invade the heart, lungs, and other organs, interfering with blood flow and other essential functions. Hundreds may grow up to 16 inches long.

Travelers planning to take pets to a known heartworm area should never be left unattended in a car during warm weather. And don’t forget…

Pet owners should never travel without bringing a collar, leash, food, and water for the trip. If boarding a pet, proof of current vaccinations is required.

Other summertime tips

On the Fourth of July, fireworks can upset pets and cause them to become lost or injure themselves while trying to get away from the noise. It is best to leave pets at home in a safe, secure, and quiet location. Provide pets with familiar toys, treats, and chews to offer some distraction. The WSU Community Practice can help pets with potential anxiety problems before the holiday arrives.

In warm weather, owners may have to limit walking/jogging distances and the length of time outside exercising with a dog. Take pets for walks during the cooler morning and evening hours, and carry along an adequate fresh water supply. Pets, like children, should never be left unattended in a car during warm weather.

Be careful when using fertilizers, insecticides, and snail slug baits, as they can be hazardous to pets. When planning your garden, consult with manufacturers, lawn care companies, and pest control companies regarding hazards to pets. Most importantly, read and follow all label directions when using any chemical. If you think your pet has been poisoned, contact the WSU Veterinary Teaching Hospital emergency service at 509-335-0711.

Yakely, WSU veterinary students will be accepted by the practice for ophthalmological training.

“It is a very important and cost-effective benefit for us to have Dr. Yakely and his staff continue to train our students,” said Slinker. “His affiliation with teaching ophthalmology in this college extends over many years and we are very grateful.”

The college will also recruit additional veterinarians by contract to teach Pullman-based classes, supervise students in their senior year, and provide services at the clinic.
Veterinary cardiologist discovers gene for heart disease

Screening test will soon be available for boxer breeders

WSU veterinary cardiologist Kathryn M. Meurs has discovered a mutant gene in the Boxer breed that causes a type of heart disease that can be fatal in animals and humans. Well known in the Boxer breed community, the disease is called Boxer cardiomyopathy. The more formal term is arrhythmogenic right ventricular cardiomyopathy or ARVC.

This is the same type of heart disease that can cause the sudden death of humans, including young athletes.

In Boxers, the disease can be fatal and frequently occurs when the animals exercise or become excited. Occasionally, they perish from the disease while at rest, too.

“Dr. Meurs’ discovery of both the gene and its location is a tremendous achievement in the cardiology of humans and animals,” said Bryan Slinker, dean of WSU’s College of Veterinary Medicine, and a recognized cardiac disease researcher. “This achievement not only helps Boxer breeders avoid this disease but it also provides an extraordinary advancement for the study of human heart diseases resulting from electrical conduction defects and the resulting heart muscle changes that occur.”

The disease is well known in Boxers because the breed has the highest incidence of this form of heart disease. ARVC is also known to be an inherited disease. Breeders sometimes avoided breeding certain lines of Boxers, but they were never completely sure if those lines had an increased risk of disease. Additionally, the disease tends to vary in severity between different dogs—a key indication that the disease had a dominant genetic origin.

Meurs began looking at the disease as an extension of her work with inherited heart disease in cats and dogs. This work is somewhat similar to her work with breeds of cats that also suffer heart disease and for which she has also discovered mutant genes. Her lab developed a molecular probe for these mutations so that cat owners now have a mechanism for screening for the disease and breeding away from it.

Using an extremely powerful gene screening mechanism based on a massive computer chip at the Broad Institute at MIT with investigators Kerstin Lindblad-Toh and Evan Mauelci, Meurs looked at thousands of regions of boxer dogs’ DNA simultaneously. The samples were collected with participation by members of the American Boxer Club and the American Boxer Charitable Foundation and were segregated into groups of dogs with the disease and those with no evidence of the disease.

Once computer analysis identified a specific region of interest, Meurs’ lab evaluated thousands of DNA sequences in affected and unaffected dogs and identified a mutation in a gene that normally codes for the production of a key cellular adhesive protein. Subsequent studies done by WSU veterinary cardiologist Sunshine Lahmers demonstrated that the cellular adhesive proteins were located at the junction between cells in the heart.

Theoretically, the conduction defect is in some way responsible for a rapid, irregular heart beat that does not pump blood efficiently. When blood is not pumped efficiently, there may not be enough circulation maintained in the brain and other organs. This can lead to fainting episodes or sudden cardiac death.

Over time, the right lower chamber of the heart, called the right ventricle, begins to be infiltrated by a fibrous fatty tissue and often has decreased contractile ability. This change in the heart’s tissues can spread to the wall between the heart chambers and the left ventricle.

The structural changes that result in functional impairment is the hallmark sign when a postmortem examination is performed on the animal’s heart. Under the microscope, normal muscle appears solid and dense. The affected heart muscle tissue is riddled with holes where the fibrous fatty tissue has infiltrated, stretching it like unorganized lace.

Meurs’ laboratory is now close to obtaining a patent on her discovery and is perfecting a genetic testing probe for the gene mutation that will be used as a clinical screening device. Shortly, Boxer owners will have the ability to take a simple cheek swab of their dog and know whether or not it carries the mutant gene. Cost of the screening is expected to be about $70 and available within the next 1-2 months.

“In many cases, after the disease is diagnosed it can be managed with medication for a long enough period of time in a dog’s life that other diseases such as cancer will be the cause of death,” said Meurs. “The medications are not very expensive and there are generic forms available, too. Average monthly costs are probably less than $100.”

Meurs said that, with her lab’s service, Boxer owners and breeders will be able to identify dogs with the mutant gene and are likely to breed away from the disease.

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

Visit the WSU Veterinary College Web site at www.vetmed.wsu.edu/depts-vth/smallAnimalServices.aspx, or subscribe to the online newsletter at www.vetmed.wsu.edu/depts-vth/newsletters. Also feel free to call 509-335-0711 for veterinary appointments or emergency care.
Ear infections are a common problem for dogs and cats

Pets typically love to have their ears rubbed, but if they are doing it themselves, shaking or tilting their head, scratching their ears, and rubbing their face on your furniture, they could be suffering from an ear infection.

Ear infections are one of the most common reasons that pets are taken to a veterinarian. Primary sources include ear mite infestations, tumors in the ear, water or foreign material that gets trapped in the ear, and predisposing factors like respiratory or food allergies.

“Animals with allergies are predisposed to ear infections because inflammation may occur in the ear, creating an environment where yeast or bacteria can develop,” said Dr. Matt Mickas, a WSU Community Practice veterinarian. “In the late spring through early fall, we see more cases of ear infections due to foreign body material like foxtails, cheat grass, or other grass awns that commonly get lodged in pets’ ears. These materials can also get lodged in the nose, eyes, paws, and coat—really anywhere.

“Activities like swimming can also lead to ear infections if water gets trapped in the ear, especially for dogs with floppy ears,” he said. “If water becomes trapped there, the warm and dark environment becomes a great place for yeast and bacteria to grow. Yeast infections are most common in these cases.”

Ear mites can strike year-round in both dogs and cats, but litters of kittens are the most commonly affected. Dogs are more prone to yeast and bacterial ear infections than cats.

“Ear infections are painful, so it is important to get an animal treated,” Dr. Mickas said. “It is hard to say how long it takes for an infection to develop, but many owners notice their pet’s has symptoms all of a sudden or see discharge coming out of their ears that often is foul-smelling and waxy, or is black and crusty. Some owners notice a bad smell and give their dog a bath, but the odor continues because the smell is coming from the discharge in the dog’s ear.

“Some pets become so painful that they become lethargic and won’t want to play,” he said. “While the majority of cases involve external ear infections, some pets get more serious infections in their middle ear or inner ear. Middle or inner ear infections can cause vertigo-like symptoms, in which the pet appears wobbly or off-balance.”

To make a diagnosis, veterinarians microscopically test the discharge from a pet’s ear, and examine the inside of the ear with an instrument called an otoscope. “It looks similar to what medical doctors examine human ears with,” Dr. Mickas said. “It allows us to see foreign bodies lodged in the ear, lumps, polyps, and if the eardrum is still intact. Sometimes sedation is necessary for a pet that is in a lot of pain and won’t let us examine its head.

“If a significant amount of bacteria is detected, we take a sample and send it to a laboratory for a bacterial culture and sensitivity test,” he said. “In this area, the Washington Animal Disease Diagnostic Laboratory (WADDL) provides this service. The laboratory determines what kind of bacteria is present and tests it with different types of antibiotics to see what will work the best. They pass that information on to the veterinarian, who then prescribes the most appropriate medication.”

If an animal has a tumor, polyp, or middle-ear infection, a computerized tomography (CT) scan can be performed at WSU’s Veterinary Teaching Hospital to check for internal issues that can’t be seen with an otoscope. Treatment for animals with ear tumors or polyps may require surgery, chemotherapy, or radiation depending on the type of tumor.

Most treatment plans for ear infections require cleaning the ear canal to remove debris. Before this is done, a veterinarian needs to make sure with an otoscope that the ear is clear of all foreign material and that the eardrum is still intact.

“Animals usually require multiple cleanings, so we teach owners how to do it at home,” Dr. Mickas said. “We recommend using veterinary-approved cleaners. Some people attempt to clean the ear with just tap water, but this can exacerbate the infection. Rubbing alcohol can also be very traumatic—it will burn and make the ear canal much worse. Hydrogen peroxide can also cause problems. It is best to consult a veterinarian for an appropriate cleaning product.”

In addition, veterinarians often prescribe topical ear medications or drops and oral medications that may include anti-inflammatory, antibiotic, or antifungal drugs.

“We usually expect to see some results within three days, and the infection should be resolved within two weeks,” Dr. Mickas said. “It is important, however, that pets have a follow-up checkup after a couple of weeks so a veterinarian can assess the pet’s overall ear health without all the debris.”

Pets with food or respiratory allergies may experience recurrent ear infections, and may require a hypo-allergenic diet, antihistamines, or other medications to help control their allergies.

“Hypothyroidism, which is an endocrine disorder that affects the skin, can also lead to recurrent ear canal infections in pets that have it,” Dr. Mickas said. “Pets with this disorder should be treated accordingly. To prevent ear infections in dogs that like to swim or hunt/retrieve in water, I would recommend cleaning their ears with an ear cleaner that includes a drying agent, and wiping their ears out with cotton balls, facial tissue, or bathroom tissue.”

For more information about ear infections or to make an appointment, contact the Community Practice Service at WSU’s Veterinary Teaching Hospital at 509-335-0711. Additional information is also posted online at in the Pet Health Topics section at www.vetmed.wsu.edu/ClientED/dog_ears.aspx.
What to do if you find a growth on your pet

It can be hard or soft, fast-growing or slow, large or small, but it is always a concern when an owner finds a growth on a beloved family pet. People often think of cancer when they find a growth, but cysts, benign skin tumors, or an inflammation or abscess from a bug bite, trauma, or a foreign body may have caused the growth or mass to form.

“You never know what a mass is, so it is important to have a veterinarian examine the pet and aspirate the mass (obtain cellular material by using a needle) to find out if it is a cancerous or benign tumor or another type of lesion,” said Dr. Raelynn Farnsworth, a veterinarian on the WSU Community Practice team. A veterinarian should also be told if the mass is causing the pet pain or discomfort, and the growth rate of the lesion.

“An aspiration is a minimally invasive procedure,” she said. “To perform an aspiration, a veterinarian will insert a fine needle or syringe into the mass to pull out some of the cells. The needle and syringe are of similar, if not identical, size to those used to administer a vaccination. Then the collected cells are put on a slide and microscopically examined. Most of the time, veterinarians can get an impression or make a diagnosis of what type of cells they are. Some are as simple as a benign skin tumor or cyst, and some are more complicated kinds of cancer.”

In dogs, a lot of growths are fatty tumors, called lipomas, most of which are benign. “Some tumors can become huge,” said Dr. Farnsworth. “I have seen skin tumors on dogs that were almost as big as the dog itself—about 12 inches around in circumference and four or five inches deep.”

In general, more dogs than cats have benign skin masses. For either dogs or cats, it is best to have a mass removed when it is small, if possible.

“Masses become harder to remove the larger they get,” Dr. Farnsworth explained. “They can also grow in areas that create mechanical obstructions for pets, making it harder for them to move and get around. For instance, it is not uncommon for a mass to form in the axilla (armpit) or inguinal (groin) areas of a dog, which, if it gets large enough, will restrict the dog’s movement and impede normal gait.”

In addition to having a tumor removed, a biopsy/histopathology should be performed to determine what cells make up the tumor to confirm or modify the diagnosis made with aspiration. A biopsy is obtained by taking a piece of the mass or the entire mass, called an excisional biopsy, through a minor surgical procedure. Biopsies are submitted for histopathology, in which the tissue is sectioned into thin slices to be stained and examined microscopically.

“It is important to have a tumor biopsied, even if it looked benign,” Dr. Farnsworth said. “Some tumors can have a benign appearance, but are actually a more serious cancer that would require a different and more aggressive treatment plan. If the mass is considered benign, most pets recover quickly once it is removed. If it is diagnosed as cancerous, we figure out what type it is, and provide owners with the best treatment options for their pet based on that type.”

Oncology is a specialty service offered within WSU’s Veterinary Teaching Hospital. There are several types of therapy used to treat cancer in dogs and cats at WSU. These include surgery, chemotherapy, radiation therapy, and immunotherapy. For some tumors, treatment plans consist of a single type of therapy, while combination therapy may be recommended for other types of cancer or for animals with a more advanced stage of disease.

“The essential thing to do if you find a mass on your pet is to take them to your veterinarian for an examination,” Dr. Farnsworth said. “Our motto here is ‘if in doubt, check it out.’”

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. In addition, WSU’s Pet Memorial Program 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.

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. Information can also be found online at www.vetmed.wsu.edu/depts-prd/memorial.aspx.
Hot spots are acute, irritating skin infections that can develop in just a day. In the morning, a dog can have a normal looking coat and by evening, a large, red, oozing, painful sore can form seemingly out of nowhere.

Hot spots, more technically known as acute moist dermatitis or pyotraumatic dermatitis, is a common skin infection of dogs. It occurs from normal bacteria on the skin that can overwhelm an area that becomes damp or moist and doesn’t dry. The sores are highly irritating for pets that have them. Dogs often make small sores into large ones in a matter of hours by scratching, biting, and licking the affected area.

“Hot spots are often produced from self-induced trauma and can have a snowball effect,” said Dr. Raelynn Farnsworth, a WSU Community Practice veterinarian. “It can begin from something as simple as a bug bite. The dog begins to lick or scratch the bite, then the area gets a secondary infection, and it quickly turns into a raw, painful, exudated or gooey spot on their body that can have a very bad odor. I have seen hot spots that started off about one-half inch in diameter in the morning, and end up six or seven inches large and oozy by the time the owners came home from work.”

Several factors can make a dog more susceptible to hot spots. Dogs with flea infestations, allergies, matted hair, a dirty coat, irritated anal sacs, and/or those with a heavy undercoat have an increased risk.

“It is more common in the spring and summer because more insects are out and lots of dogs like to go swimming,” Dr. Farnsworth said. “Dogs with allergies are more likely to develop hot spots from a cut or insect bite. It is also more likely in dogs with a thick undercoat, like labradors and golden retrievers. One time, I treated a dog that swam all weekend and its undercoat never dried. Within a few days, its chin, belly, and underarm area was one giant hot spot. The dog was in so much pain that I had to clip its whole coat under anesthesia.”

Once a hot spot has been discovered, it is best to get the animal veterinary treatment as soon as possible to prevent the sore from growing larger.

“Treatment requires clipping the surrounding hair to get air to the skin, and cleaning the area well,” Dr. Farnsworth said. “Because the condition is so painful, many animals require sedation for this to be done. Owners that attempt to do this by themselves will likely find their dog is uncooperative. Once the sore is clipped and cleaned, dogs are usually prescribed oral antibiotics or a topical steroid antibiotic ointment to apply to the affected area. Sometimes, an oral steroid is also prescribed.”

It can also help to trim a dog’s nails to prevent it from scratching the affected area. An Elizabethan collar (a stiff, cone-like circle placed around an animal’s neck) can also prevent a dog from licking or biting the hot spot while it is healing.

“With treatment, hot spots usually heal fairly quickly, but the scab may take a few weeks to go away,” she said. “If there was an underlying cause, like fleas or allergies, those conditions must also be treated, or the dog may continue to develop hot spots. Dogs with heavy undercoats will also likely benefit from a summer hair clipping.”