

Newsletter of the COMMUNITY PRACTICE SERVICE

Washington State University College of Veterinary Medicine
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Advanced dental treatments

Annual veterinary dental examinations and regular cleanings are important for keeping a pet's mouth healthy. Through regular dental care, veterinarians can remove tartar and plaque buildup that can lead to problems like gingivitis and periodontal disease, identify dental diseases before they progress very far, and apply treatments that will help or prevent dental disease. Basic tooth extraction is another common procedure performed in many veterinary practices when a tooth is not salvageable by other methods.

Some problems may arise, however, often involving the large structural teeth in dogs or cats. These may require more advanced dental treatments to resolve the problem or save the teeth. Examples include fractured or abscessed teeth, infections, and bite abnormalities regarding the way the teeth lay in the mouth.

In the past, tooth extraction was the only method available for treating problematic teeth in pets.

But this is not always best, especially if the large structural teeth are involved—particularly the long canine teeth in the front or the carnassial teeth (premolars and molars) toward the back of the mouth. These teeth are important for chewing, provide a lot of structure to the jaw, and involve the removal of a large amount of bone if they are extracted.

With modern veterinary technology, there are several advanced dental procedures that may help save a tooth and allow an animal to retain its function. With the aid of specialized equipment, some veterinary practices offer specialized periodontal treatment, vital pulpotomy and direct pulp capping, and root canal therapy, as well as complicated tooth extractions for certain teeth that can't be saved. Most of these advanced dental procedures are offered at the WSU Community Practice Service.

Specialized periodontal treatment

Sometimes a tooth that has a lot of periodontal disease around it can be saved.

"We used to have no other choice than to pull teeth in this condition, but if the tooth is one of the large structural teeth in the mouth and your

pet will cooperate with some home care, we can now sometimes save these teeth with advanced periodontal therapies," Dr. Farnsworth said. "This usually involves deeply cleaning the roots, and sometimes the tissue flaps around the affected teeth.

Vital pulpotomy and capping

Vital pulpotomy and direct pulp capping is a procedure to help only live teeth, and involves treating the pulp material inside the tooth, followed by capping or crowning the tooth. This procedure lasts about an hour, and is appropriate when there is a fresh tooth fracture (less than 48 hours old), or when there is a bite abnormality. This often happens when an animal's bottom jaw is thinner than the top, and certain teeth hit the roof of the mouth and injure it. In this instance, a veterinarian intentionally exposes the pulp by cutting the top of the offending tooth off and caps it to prevent further injury from the

misaligned teeth.

Root canal

Pet owners may want to consider a root canal for their animals when important teeth in the mouth are dead or fractured and the pulp, or inner material of the tooth, is exposed. It can also be appropriate if dental radiographs show that the affected tooth has abnormally curved roots that would make it difficult to remove.

Normally the root canal inside a tooth contains nerves, blood vessels, and other

nourishing tissues. But when a tooth becomes fractured or dies because of a fracture or trauma, the material can become infected and the body does not have a way to get rid of it. Eventually the tooth will fall out, but it is slow and painful, and other teeth can become damaged in the process.

For root canal treatment, the animal is anesthetized and a veterinarian drills a small hole into the tooth to clean, sterilize, and fill it with restorative material. The procedure generally lasts one to two hours.

"We are offering select root canals on some dogs and cats," said Dr. Raelynn Farnsworth, a WSU



Dr. Raelynn Farnsworth performs many dental procedures at WSU's Community Practice Service.

Photo by Henry Moore Jr. BCU/WSU.

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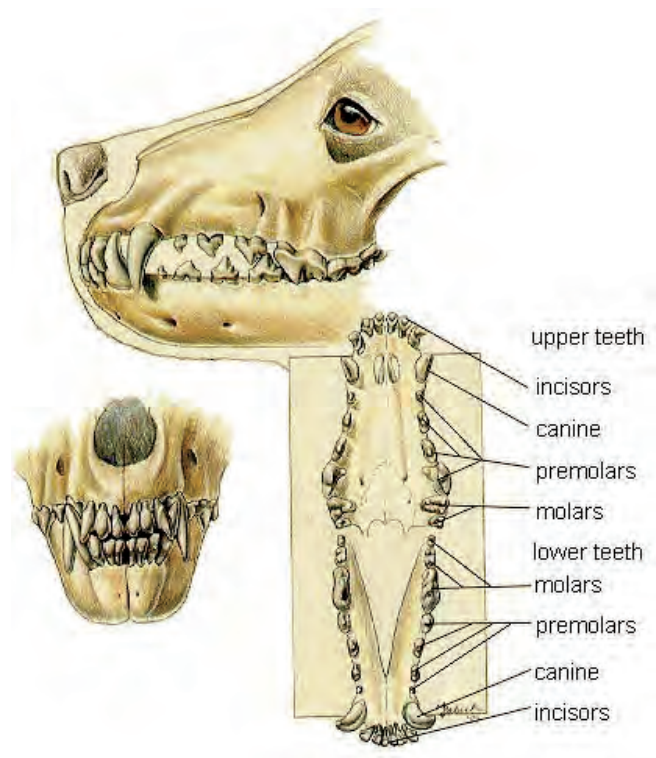
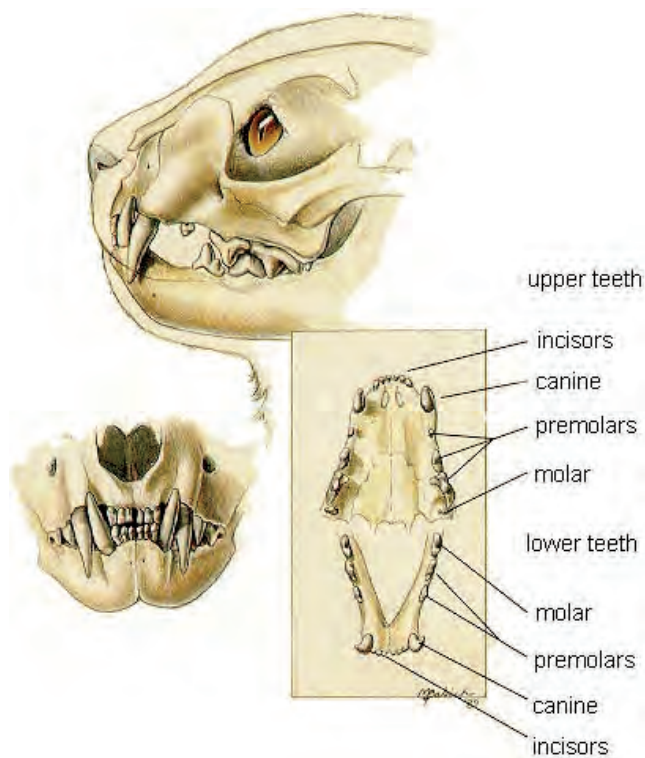
Community Practice Service veterinarian who performs advanced dental procedures at the Veterinary Teaching Hospital. "It is not appropriate for every dead or broken tooth, but saving certain teeth with root canal treatment is beneficial. Dogs can't chew as well without their big molars, called carnassial teeth, which are also huge structural teeth for the jaw. Without the big, long teeth in front called the canine teeth, animals can't hold their tongue in.

"It is possible that a root canal could fail if all the infected material in the tooth is not removed, or because some dogs are likely to fracture their tooth again because of their chewing behavior," she said. "We can extract these teeth, but it is up to the owner. When a root canal is done, we check with radiographs 6 to 12 months later to make sure it worked."

because they can drain in different spots along the face. It can also be very painful for a dog to chew.

"We had one owner that thought their dog had a nose tumor because of a large swelling on top of its nose, but it was from an abscessed tooth that needed extraction," she said. "Usually we can make a diagnosis with a physical exam and radiographs, and the usual treatment is a tooth extraction or root canal therapy, followed by pain medication and antibiotics. In this case, the tooth appeared normal and it took an MRI scan of the dog's nose to determine the cause of the swelling. The owners were relieved to find out the diagnosis was a bad tooth and not a tumor."

The carnassial tooth has three large roots that extend across the face from the gum line to an area in front of the eye. When an abscess forms, it can occur in one or more of the roots. By the time



Root canals are best for fully developed adult teeth because the entire pulp in the tooth is removed, causing the inside of the tooth to die. A vital pulpotomy is best for young animals with immature teeth because only a certain portion of the pulp is treated, which allows the tooth to remain vital or live, and continue to develop and strengthen. Some young animals can also be helped with minor orthodontic implants for two to four months as the pet is growing.

Complicated tooth extractions

Certain situations occur when important teeth must be extracted. One common instance is a carnassial tooth fracture or abscess, which usually forms from an infected tooth fracture.

"It is very common because dogs chew on things they are not supposed to and break their teeth on stuff like sticks, rocks, and occasionally hard chew toys. We see probably at least one carnassial tooth abscess here a month," Dr. Farnsworth said. "It can be a misleading problem because these abscesses can appear like a bug bite on the face, an eye infection, or a puncture wound

it is usually noticed, the tooth is dead or dying. If untreated, a carnassial tooth abscess will not heal on its own and can spread to cause a serious infection and the loss of other teeth. It occurs most commonly in older dogs. As one of the most difficult teeth to extract, the carnassial tooth is split in three pieces to remove each root individually. The procedure generally takes about one hour. If any portion is left behind, abscesses may continue to form. In some instances, root canal therapy may be an alternative treatment option for an abscessed tooth.

For more information about dental care offered at the WSU Community Practice Service or to make an appointment, contact WSU's Veterinary Teaching Hospital at 509-335-0711.

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Preparing a pet for winter

Chilly, wintery weather can make anyone want to come in from the cold. But if you have a pet that either remains outdoors during most of the winter or spends a portion of their day outside, it is important to plan for their comfort and safety. 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. There are several products available today that can make this task easier, or traditional methods that work as well with a little added time.

- Shelter is a top priority for outdoor pets. If you don't have one, insulated dog houses can be purchased. If you do have a dog house, try to place the entrance out of the wind, place a flap or door on it for the winter, and provide some warm bedding for your animal to lie on. Straw can provide good insulation on the floor, and bales can provide good insulation for the outside. A heated pet bed is another good idea if an electrical cord can be extended to the dog house. Make sure when using a heated pet bed that it is not too hot. If it feels too hot for a person, then it is too hot for a dog.
- It is also very important that pets have access to fresh, unfrozen water. Even if the bowl seems full, make sure ice hasn't formed over the top that would prevent pets from drinking, or purchase a heated pet bowl that prevents water from freezing. If you don't have one, plastic bowls are better than metal because tongues or lips may stick to cold metal bowls.
- A pet that spends a lot of time outdoors in the cold may also need extra calories because it will use more energy to keep warm. Make sure pet food left outdoors is not being eaten or soiled by rodents, wildlife, or other animals.
- After walking a dog in winter weather, be sure to wash off rock salt or deicers that may stick to their feet. Also, be careful walking dogs near frozen lakes or ponds. If a person can't skate on it, a pet may fall through as well and could suffer hypothermia or drown.
- Indoor dogs may benefit from a sweater to keep comfortable in the cold when outdoors, but not all dogs will like them. Dogs that do like sweaters should not be allowed to wear them all the time because their hair will get matted, creating discomfort. Outdoor dogs develop a winter coat of fur and won't need a sweater, but any time the temperatures drop below zero degrees Fahrenheit, consider bringing outdoor pets in the house, garage, or some other type of warmer shelter. Young, old, or sick animals are less tolerant of temperature extremes and need extra care in cold weather.
- Leather and fleece pet booties are also available to help protect paws in the snow and ice. Booties can be useful for indoor pets with soft pads, and working or hunting dogs that are out a lot and could benefit from protection from rough terrain, burs, thorns, and other material that can cut or get lodged in their feet. Booties can also make walking more comfortable for pets with cut feet, and will keep material out of the wound. Some pets are picky about the material chosen for their feet, so it may take trying a few brands or types before finding one they will wear.



Patch

- Hunting season continues throughout the winter, so be sure pets are in safe areas and cannot be mistaken for game. Hunters should check their dogs over daily for sporting injuries and foreign objects such as grass awns that may become lodged in the feet, ears, eyes, and nose.
- Outdoor cats seeking heat may climb on to a warm car engine, and can be seriously hurt or killed if they haven't moved the next time the car is started. Rap on the hood of your car before starting the engine to scare away any visitors. Also be aware that antifreeze, which tastes sweet, is very toxic to pets. Even a small amount (1/2 teaspoon per pound) can kill, so clean up any spills and check to make sure your car is not leaking any on the ground. If you suspect your pet has ingested any antifreeze, seek veterinary attention immediately.
- Christmas will be around the corner soon. Don't forget your pets in all the hustle and bustle. Pets may be exposed to unwanted stress, such as traveling, houses full of visitors, and other environmental changes in the home like decorations and lights. Provide them with plenty of attention and a quiet space where they can go and feel safe. Holiday decorations can also present hazards to your pets, including holiday trees, ornaments, string lights, tinsel, and plants such as mistletoe. Keep potentially hazardous items away from your pets and out of their mouths.
- If you are thinking of 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.

Bloating can lead to a deadly condition in dogs

Certain situations can sometimes make people feel like their stomach is twisted in a knot. For dogs, twisting of the bowel can literally happen and when it does, it is a life-threatening medical emergency.

This condition is called gastric dilation and volvulus (GDV). It occurs when a dog's stomach bloats or dilates for various reasons, and twists into an abnormal position that can cut off the blood to the stomach and disrupt a dog's normal circulation. In severe cases, the stomach may eventually rupture, leading to severe shock and possible death. Early intervention is essential and can drastically improve a dog's prognosis.

"GDV surgery is a pretty common surgical emergency," said Dr. Courtney Watkins, a WSU veterinary surgery resident. "GDV is not much of a concern for cats and small dogs. It is most frequently seen in large breed dogs with deep and narrow chests, presumably because they have more room for torsion or twisting of the stomach. In Great Danes, approximately 40 percent may potentially have a GDV within their lifetime."

Other susceptible breeds include Irish Setters, Weimaraners, Standard Poodles, Rottweilers, St. Bernards, Akitas, Boxers, Labrador retrievers, and Golden retrievers, although it can occur in almost any breed.

"It is seen more commonly in middle-aged to older dogs, although it can certainly happen in younger dogs," she said. "Other predisposing factors include feeding habits and the amount of stress and anxiety an animal experiences around mealtime. There is a higher instance of bloating in dogs that are fed one meal per day."

When bloating occurs, dogs may vomit and belch to relieve the pressure. This may resolve the problem, but some dogs may require emergency veterinary treatment. If volvulus has occurred, the most common signs are non-productive vomiting or retching and a distended abdomen. The dog may also become weak, painfully restless, pant, and excessively salivate. These signs can also occur with bloating. If these signs are present, it is crucial to get veterinary help immediately.

"The volvulus is what becomes critical," Dr. Watkins said. "As the blood flow to the organs is compromised, they may begin to die. The prognosis for individual dogs is variable depending on the duration and extent that blood flow was compromised. For dogs that are treated quickly, more than 80 percent will do well. But if tissue damage of the organs is severe (gastric necrosis), the prognosis becomes poor."

Initially, a veterinarian will manage the animal's critical status. "The first thing is to manage the shock," Dr. Watkins said. "Often the dog is given pain medication, and intravenous fluids are administered. Attempts to decompress the gas in the stomach may be made either by passing a tube into the stomach or by a needle placed through the body wall."

Radiographs (x-rays) are needed to make a definitive diagnosis. "Radiographs are the gold standard for diagnosis," Dr. Watkins said. "Radiographs can show if the stomach is dilated or if volvulus has occurred. GDV produces an image commonly referred to as a 'double bubble.' Surgery is always indicated when a GDV is diagnosed."

During surgery, the stomach is decompressed, replaced back to its normal location, and held in place by suturing it to the body wall.

This part of the surgery is called a gastropexy and is performed to prevent future volvulus of the stomach, although bloating can still occur and would require medical attention.

If treatment and surgery are delayed, compromised blood flow may lead to tissue death and portions of the stomach may need to be removed. The spleen is also closely associated with the stomach and sometimes must be removed during surgery as well. Vigilant post-operative care and monitoring is essential to watch for complications that may arise.

"The patients at WSU are watched in our intensive care unit (ICU) for one to three days post surgery to manage potential complications like heart arrhythmias, which can occur quite commonly in GDV patients," Dr. Watkins said. "The length of recovery depends on the severity of the case,

but many dogs are hospitalized for several days before going home."

Once a dog has had an episode of bloating or GDV, it may be prone to it happening again. In the majority of cases, gastropexy is performed during surgery to prevent future recurrence of GDV. To help prevent further bloating episodes, owners can feed their dog several small meals a day instead of one large meal, and limit activity following meals.

"Owners with susceptible breeds to GDV do not need to wait for a first episode to strike before having a gastropexy performed," Dr. Watkins said. "It can be performed at the time of spaying or neutering to prevent future episodes of GDV. However, even with a gastropexy, dogs can still bloat and require emergency medical attention."

For more information about bloating or GDV, or in case of an emergency, contact the WSU Veterinary Teaching Hospital at 509-335-0711.



A Great Dane, one of the most susceptible breeds to GDV.

Risk of H1N1 infections in companion animals

WADDL offers swine flu testing for multiple species

In early November, a 13-year-old cat in Iowa was confirmed to have the 2009 H1N1 influenza virus, the first time a cat has been diagnosed with this particular strain of disease. The cat is thought to have contracted the virus from sick human family members in its household. The cat was treated at the Iowa State University College of Veterinary Medicine in Ames, Iowa, and survived.

Recently several ferrets in other states were also confirmed to have the virus. The H1N1 virus has also been found in humans, pigs, and birds. So far, there is no indication that companion animals have infected any people.

The American Veterinary Medical Association (AVMA) and the American Association of Feline Practitioners (AAFP) have released a statement reminding pet owners that some viruses can pass between people and animals, and the recently confirmed cases in companion animals were not altogether an unexpected event. The organizations also recommend that pet owners monitor their pets' health very closely, no matter the type of animal, and visit the veterinarian if any signs of illness appear.

Signs to look for can include lethargy, loss of appetite, fever, runny nose, watery eyes, sneezing, coughing, or changes in breathing, including difficulty breathing.

While there is a vaccine for humans, currently there is not a H1N1 flu vaccine for pets. The human vaccine should not be used for pets.

So far, there have not been any reported cases of H1N1 in dogs, but owners should be aware that they are susceptible to the H3N8 influenza virus known as canine flu. This virus has

been around for several years and has only been known to spread between dogs. Symptoms of the H3N8 influenza virus are very similar to those of kennel cough. Symptoms include fever, lethargy, loss of appetite, coughing, and possibly a runny nose.

Veterinarians can submit samples to WADDL for H1N1 testing

Currently, the Washington Animal Disease Laboratory at Washington State University (WADDL) is offering testing for 2009 H1N1 influenza virus in multiple species.

In addition to swine, WADDL received approval from the United States Department of Agriculture (USDA) to use the swine assay on cat and ferret samples. Other companion animals may be tested based on risk of infection, and by approval from WADDL on a case-by-case basis.

For information about submitting samples and other essential details, veterinarians should call WADDL at 509-335-9696. Veterinarians should also contact WADDL for postmortem examinations and/or tissue submission for 2009 H1N1 testing taken from deceased animals other than swine.

If a 2009 H1N1 test conducted in WADDL is positive, the sample will be sent to the National Veterinary Services Laboratories (NVSL) in Ames, Iowa, for confirmatory testing. Veterinarians and regulatory agencies, including USDA, Washington State Department of Agriculture, and Washington State Department of Health, will be notified of the presumptive positive result and of the final result from NVSL.

The AVMA is actively tracking all instances of H1N1 in animals and posting them on their Web site at www.avma.org/public_health/influenza/new_virus. Additional important information can also be found there, including frequently asked questions.



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.

Ways to get reluctant pets to take their medicine

It's reassuring when there is a medication available to treat an ailing pet. But what can be done when a pet refuses to take it?

"We and our pharmacists in WSU's Veterinary Teaching Hospital really try to work with clients to make pills, liquids, and compounded drugs palatable for our patients," said Dr. Matthew Mickas, head of WSU's Community Practice Service. "We do our best to find the right medication for each patient. But getting a pet to take their medicine is not always easy."

When pets refuse to take a pill, it is usually a good idea to put the pill into the middle of something that the pet likes to eat, like a meatball of canned pet food or another treat.

For liquid medications, a syringe or dropper can help get the medicine down a reluctant pet if it is administered slowly down the side of the mouth rather than down the middle of the tongue. Before starting, try to get the pet to sit and relax as much as possible. Then pull the loose skin around the mouth back and place the medicine between the open lip and the teeth. Once the medicine is dispensed, close the animal's mouth for a short time to make sure it is swallowed. If that doesn't work, then try mixing the medication into something palatable to the pet, like a small amount of meat or tuna juice.

Ear drops and cleansers can also be problematic for some pet owners to apply. "At first you can try coaxing a pet with food by giving them a treat if they are compliant for their medicine administration," Dr. Mickas said. "It might also be useful if

additional people can help to gently restrain the pet for application. But if a pet's ears are too painful, you probably won't get very far, especially with ear cleansers with ingredients that can cause discomfort. If this is the case, we can prescribe oral pain medication to be given with ear drops with an anti-inflammatory ingredient for a couple of days so the ears are less sensitive to being handled and cleaned. In addition, oral sedatives can be prescribed as necessary to relieve anxiety prior to ear medication or cleaning solution administration."

One reason a pet might refuse medication is that it is experiencing an allergic reaction that an owner may not be aware of. "Even though a particular medication might be an effective and safe product, sometimes they can cause an individual to react in a negative way, similar to the way that some people develop an allergy to a penicillin product," Dr. Mickas said. "If a client is using a prescription shampoo, eye medication, ear medication, or other topical medication and the area of treatment becomes more irritated, reddened, or uncomfortable, then the topical product may need to be changed to another. If a pet becomes nauseated or develops diarrhea with the use of an oral medication or prescription diet, then another should be considered. If you have questions about potential adverse reactions to medications, diets, etc. that concern you, it is not unreasonable to discontinue use of the medication and immediately consult with the prescribing veterinarian."



A cat receiving oral medication through a syringe.

Continuing Education Opportunities from WSU

www.vetmed.wsu.edu/ce/

WSU is currently offering a one-hour online course for veterinarians and veterinary technicians: "Beyond NSAIDs: What can we do to treat chronic pain?" by Dr. Tammy Grubb. Details can be found online at www.vetmed.wsu.edu/ce/pain.

20th Annual Small Animal Endoscopy Workshops by Dr. Todd Tams, May 21–May 26, 2010, in Pullman. For details, go to www.vetmed.wsu.edu/ce/endoscopy.

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**.