

FEEDING YOUR ADULT DOG

WHAT SHOULD YOU FEED?

Your dog knows that what's on your plate is infinitely better than what he's eating at the moment – and you may be tempted to prove it by giving him some. Before you do, remember that good nutrition and a balanced diet are essential elements for good health in a dog. And that means watching your canine's caloric intake carefully.

Your dog needs plenty of fresh water and should be fed good quality food in amounts just right to meet his energy requirements. Inadequate or excess intake of nutrients can be equally harmful.

Most dry dog foods are soybean, corn or rice based. Some of the better brands have meat or fish meal as the first listed ingredient. Although higher priced, they are worth looking into. Dogs eat less of the higher quality products, thus reducing the cost. Dry dog foods also have greater "caloric density" which means simply, there is less water in a cup of food as compared to a canned food diet. This is not a big issue for our smaller canine friends, but large dogs may have difficulty eating enough volume of canned food to fulfill their caloric needs (because they also get a lot of water in that food). Overall, the choice of "dry" vs. "canned" vs. "semi-moist" is an individual one, but larger dogs (such as those greater than 30 pounds) should be fed a dry or semi-moist food in most circumstances

Proteins, fats and carbohydrates are necessary for energy. Dietary requirements for dogs can vary according to activity and stress levels and medical history. Dogs expend energy in many different ways. For example, outdoor dogs are likely to experience increased levels of exercise and thus require a higher percentage of protein and fat for energy production than a dog who stays indoors most of the time. Dogs in various life stages [including puppy ("growth"), adult and senior ("geriatric")] require different amounts of nutrients. Special situations such as pregnancy and nursing puppies can dramatically affect nutritional needs. Working dogs need more calories, while the "couch potato" needs less (just like us!).

The Association of American Feed Control Officials (AAFCO) is an organization that publishes regulations for nutritional adequacy of "complete and balanced" dog and cat foods. Your pet's food should conform to minimal AAFCO standards. Diets that fulfill the AAFCO regulations will state on the label: "formulated to meet the AAFCO Dog Food Nutrient Profile for...(a given life stage).

RECOMMENDATIONS

- AAFCO Standards: All foods should conform to AAFCO standards (check the label). This indicates the manufacturer is following the national consensus recommendations for dog foods.
- Food Type: The choice of canned, semi-moist or dry food is an individual one, but if your dog is more than 30 pounds, dry food is preferred as the base diet for its greater caloric density (more calories per volume of food). There are a number of excellent dog food manufacturers.
- Water: Always provide plenty of fresh water.

CONSIDER YOUR DOG'S AGE

- For puppies (less than 8 to 9 months and less than 30 pounds): Feed your puppy a consistent canned, semi-moist or dry dog food designed for puppies. If your dog weighs more than 30 pounds, dry food is preferred for greater caloric density.
- For adult dogs (8 to 9 months to 6 years): Feed your dog a consistent canned, semi-moist or dry dog food designed for an "adult" dog.
- For senior dogs (over 7 years): Feed your dog a consistent canned, semi-moist, or dry dog food designed for a "senior" dog.

CONSIDER YOUR DOG'S BODY WEIGHT

- Underweight dogs: Feed your dog 1 1/2 times the "usual" amount of food and make an appointment to see your veterinarian about your dog's body condition. Consider switching to a food with higher protein and fat content.
- Lean dogs: Many healthy dogs are a bit thin, especially active young male dogs. Consider increasing total daily food or caloric intake by 25 percent. Weigh your dog every week if possible to chart progress.
- Chubby dogs: If your dog is a bit overweight, try increasing the daily exercise routine. Gradually increase exercise over 2 weeks unless limited by a medical condition. If these measures fail, cut out all treats and reduce daily intake of food by up to 25 percent.
- Fat or obese dogs: Stop all treats except vegetables. Increase exercise gradually over 2 to 3 weeks if not limited by a medical condition. If these measures fail, reduce the total daily food amount by 25 to 40 percent, switch to a low fat/high fiber diet, and call your veterinarian to discuss your plans. Inquire about prescription-type reduction diets that can really be effective while providing balanced nutrition.

MEDICAL PROBLEMS

Always consult your veterinarian first regarding any specific foods or dietary adjustments required for a dog with heart, kidney, intestinal or liver disease, or for a dog with cancer. Special dietary measures may also be important for dogs with allergies, certain metabolic diseases, or other medical conditions.

PREFERRED FOOD

There are a number of prominent manufacturers of high quality dog foods, including Iams® (Eukanuba®), Hill's® (Science Diets®), Nature's Recipe® products, Nutra Max®, Purina® and Waltham®, among others. Follow the label recommendations, but use your own judgment in determining how much to feed.

PREGNANCY IN DOGS

OVERVIEW

Pregnancy is the period of gestation when the young are developing in the mother's uterus. Normal gestation in dogs is 58 to 68 days (the average is 63 days).

The litter size in dogs varies from one puppy to more than 17 in some giant breed dogs. Litter sizes are often smaller in young and old animals and largest when the mother is around three to four years of age.

Conditions that may be confused with pregnancy include false pregnancy, mastitis (inflammation of the mammary glands), mammary gland neoplasia (cancer), abdominal enlargement due to fluid accumulation or organ enlargement, or pyometra (infection of the uterus).

WHAT TO WATCH FOR

- Nesting behavior (attempting to make a nest by tearing up papers, blankets, etc.)
- Mothering activity (this may include mothering of shoes, toys and other articles)
- Weight gain (which typically occurs after the 4th week of pregnancy)
- Abdominal enlargement or swelling
- Mammary gland enlargement. The mammary glands may be large and secrete milk or serous fluid.
- Abnormal behavior. If your dog does not eat, acts lethargic or you notice excessive vaginal discharge, please call your veterinarian as soon as possible.

DIAGNOSIS

Your veterinarian may perform some diagnostic tests to confirm your dog's health and to determine if she is pregnant. These include:

- A complete medical history and physical examination
- Evaluating your dog's heat cycle and any potential breeding episodes
- Abdominal palpation (technique of examining the organs and other parts of the body by touching and feeling). However, puppies can seldom be felt until at least 26 to 35 days after breeding and fetuses can be difficult to feel in some dogs.
- Abdominal radiographs or x-rays. The skeleton of the puppy is visible on an X-ray after 45 days of pregnancy. They will also show other abnormalities, such as organ enlargement or abnormal fluid accumulation, are present.
- Abdominal ultrasound can be used to diagnose pregnancy after 21 to 24 days post breeding. This is a safe and excellent way to diagnose pregnancy and verify the health of the puppies. Ultrasound can also be used to estimate litter size.

Your veterinarian may recommend other diagnostic tests (not typically done with a normal pregnancy) on a case-by-case basis. Tests may include:

- Blood work. Complete blood count (CBC) and biochemistry (bloodwork to evaluate the function of the liver and kidneys). There are no practical blood or urine tests available to diagnose pregnancy in dogs.
- Urinalysis
- Heartworm checks (a good idea in all dogs not on prevention)

TREATMENT

- Normal pregnancy does not usually need any "treatment"; however, it is important to see your veterinarian for regular check-ups to ensure the health of your pet.
- It is extremely important that your dog be cared for properly during the pregnancy.
- If you decide that you do not wish to have further litters, or if your pet has significant problems during the birth process, you may wish to have her spayed to prevent further pregnancies.
- Have your veterinarian recheck your dog one week before the due date. The doctor may then palpate for puppies and perform a pelvic exam to establish a rough estimate of pelvic canal size vs. puppy size to try to anticipate problems that might occur during whelping.

HOME CARE

Good nutrition is essential for healthy puppies and mothers so feed your pet a high-quality diet formulated for pregnant or nursing dogs.

- Although nutritional needs change little during the first 4 weeks of gestation, your dog's nutritional needs nearly double during the last 5 weeks. Your veterinarian may recommend a special diet and/or vitamins for your dog.
- Be sure to provide the increased amounts of food she needs in several small meals each day, rather than feeding it all at one time. It is particularly important to feed frequent small meals during the last part of gestation. A pregnant bitch may not feel like eating much as delivery nears because her abdomen is full of puppies, which leaves little room for the stomach to enlarge. Continue feeding a high-quality diet until after the puppies have been weaned.
- Be sure that fresh water is always available, since pregnancy increases your pet's fluid needs.
- A moderate amount of exercise is recommended during pregnancy; however, strenuous exercise may be harmful. Short periods of gentle play and short walks are beneficial. After the pregnancy check at 26 to 35 days, you should begin exercising your pregnant pet five days a week for a half hour each time.
- If you would like to know more precisely when delivery is near, check the rectal temperature of the mother twice daily from the 58th day of pregnancy until labor begins. Normal rectal temperature varies between 100.5 and 102.0 degrees Fahrenheit. Within approximately 24 hours of the onset of labor the rectal temperature drops nearly two degrees in most dogs.

WHELPING (BIRTH OF THE PUPPIES)

The more that you can learn about whelping the better prepared you will be for any difficulties that might occur. Once you know that your bitch is pregnant, you should begin preparing for the puppies delivery.

- Provide a whelping box for the mother to begin sleeping in. This will help ensure that the puppies are born in an area that you have chosen. The width of the whelping box should be approximately equal to the length of your dog (including tail) and 1 1/2 times as long. Place a 1 by 4-inch rail around the inside of the box approximately 4 inches from the bottom of the box. This helps prevent the bitch from lying on her pups. This box should be relatively small, with sides six to eight inches high (to keep the pups from crawling out of the nest). The box should be bottomless. The floor should be lined with plastic then paper, and finally with a flannel material on the top.
- Tack the flannel to the side of the box after being stretched tautly. The new mother likes to paw in attempts to make a nest. These wrinkles can lead to folds, which can cover and suffocate the pups. Pups nurse until they are tired, not until they are full. The use of flannel sheeting allows good footing for the pups to nurse. Excessive slipping on a slick surface can lead to exhaustion and less nursing. The flannel blanket will need to be washed every day.
- Provide a heat source in the whelping box during the first few weeks of the puppies' lives. A small light (e.g., a trouble light) placed above a corner of the whelping box is usually adequate, but will depend on the ambient temperature where the box is housed. Pay careful attention to the temperature in the whelping box. You can attach a thermometer to the whelping box to help ensure that the box is maintained at a temperature of 80 to 85 F for the first five days of the puppies lives. The temperature can then be decreased one degree per day after day five. This can be accomplished by raising the height of the light. Place the box in a secluded yet familiar area of the home, away from the family traffic, to allow the mother solitude.

HOW TO CONTROL AND PREVENT FLEAS ON YOUR DOG

UNDERSTANDING THE FLEA

For millions of pets and people, the tiny flea is a remorseless enemy. The flea is a small, brown, wingless insect that uses specialized mouthparts to pierce the skin and siphon blood.

When a flea bites your dog, it injects a small amount of saliva into the skin to prevent blood coagulation. Some animals may have fleas without showing discomfort, but an unfortunate number of dogs become sensitized to this saliva. In highly allergic animals, the bite of a single flea can cause severe itching and scratching. Fleas cause the most common skin disease of dogs – flea allergy dermatitis.

If your pet develops hypersensitivity to flea saliva, many changes may result.

- A small hive may develop at the site of the fleabite, which either heals or develops into a tiny red bump that eventually crusts over.
- The dog may scratch and chew at himself until the area is hairless, raw and weeping serum (“hot spots”). This can cause hair loss, redness, scaling, bacterial infection and increased pigmentation of the skin.

Remember that the flea spends the majority of its life in the environment, not on your pet, so it may be difficult to find. In fact, your dog may continue to scratch without you ever seeing a flea on him. Check your dog carefully for fleas or for signs of flea excrement (also called flea dirt), which looks like coarsely ground pepper. When moistened, flea dirt turns a reddish brown because it contains blood. If one dog in the household has fleas, assume that all pets in the household have fleas. A single flea found on your pet means that there are probably hundreds of fleas, larva, pupa and eggs in your house.

If you see tapeworm segments in your dog’s stool, he may have had fleas at one time or may still have them. The flea can act as an intermediate host of the tapeworm, *Dipylidium caninum*. Through grooming or biting, the animal ingests an adult flea containing tapeworm eggs. Once released the tapeworm grows to maturity in the small intestine. The cycle can take less than a month, so a key to tapeworm prevention is flea control. Anemia also may be a complication of flea infestation especially in young kittens.

THE LIFE CYCLE OF THE FLEA

The flea’s life cycle has four stages: egg, larva, pupa and adult.

- Eggs. The adult flea uses your dog as a place to take its blood meals and breed. Fleas either lay eggs directly on the dog where they may drop off, or deposit eggs into the immediate surroundings (your home or backyard). Because the female may lay several hundred eggs during the course of its life, the number of fleas present intensifies the problem. The eggs hatch into larvae that live in carpeting, cracks or corners of the dog’s living area.
- Larvae. The larvae survive by ingesting dried blood, animal dander and other organic matter.
- Pupa and adult. To complete the life cycle, larvae develop into pupa that hatch into adults.

The immediate source of adult fleas within the house is the pupa, not the dog. The adult flea emerges from the pupa, then hops onto the host.

This development occurs more quickly in a warm, humid environment. Pupa can lie dormant for months, but under temperate conditions fleas complete their life cycle in about three weeks. The inside of your home may provide a warm environment to allow fleas to thrive year round.

FIGHTING THE FLEA

Types of commercial products available for flea control include flea collars, shampoos, sprays, powders and dips. Other, newer, products include oral and systemic spot on insecticides.

In the past, topical insecticide sprays, powders and dips were the most popular. However, the effect was often temporary. Battling infestations requires attacking areas where the eggs, larvae, pupae and adults all congregate. Because some stages of a flea's life can persist for months, chemicals with residual action are needed and should be repeated periodically. Sprays or foggers, which required leaving the house for several hours, have been used twice in 2-week intervals and then every two months during the flea season.

Treating animals and their living areas thoroughly and at the same time is vital; otherwise some fleas will survive and re-infect your pet. You may even need to treat your yard or kennel with an insecticide, if the infestation is severe enough.

The vacuum cleaner can be a real aid in removing flea eggs and immature forms. Give special attention to cracks and corners. At the end of vacuuming, either vacuum up some flea powder into your vacuum bag, or throw the bag out. Otherwise, the cleaner will only serve as an incubator, releasing more fleas into the environment as they hatch. In some cases, you may want to obtain the services of a licensed pest control company. These professionals have access to a variety of insecticides and they know what combinations work best in your area.

TREATMENT & PREVENTION

As one might expect, flea control through these methods is very time consuming, expensive and difficult. The good news is that currently, with the newer flea products on the market, flea control is much safer, more effective and environmentally friendly. Current flea control efforts center on oral and topical systemic treatments. These products not only treat existing flea problems, they also are very useful for prevention. In fact, prevention is the most effective and easiest method of flea control.

It is best to consult your veterinarian as to the best flea control and prevention for your pet. The choice of flea control should depend on your pet's life-style and potential for exposure. Through faithful use of these systemic monthly flea products, the total flea burden on your pet and in the immediate environment can be dramatically reduced. Keeping your pet on monthly flea treatments especially in areas of high flea risk is an excellent preventive method of flea control. These products often eliminate the need for routine home insecticidal use, especially in the long run. Although it may still be prudent in heavy flea environments to treat the premises initially, the advent of these newer systemic flea products has dramatically simplified, and made flea control safer and more effective.

EUTHANASIA IN DOGS

OVERVIEW

Euthanasia literally means an “easy and painless death.” You may know it as “putting a pet to sleep” or “putting an animal down.” It is the deliberate act of ending life and undoubtedly it is a difficult issue. Pet owners who must make this decision often feel anxiety or even guilt, but when a pet is very ill with little hope of recovery, the question of “When is it time?” becomes most important.

It’s a common situation: Many pets suffer with chronic diseases such as cancer that can often be managed in such a way that life is prolonged, although the quality of life is greatly diminished. For most pet owners this issue greatly influences the decision concerning euthanasia. Certainly, quality of life is a personal judgment; you know your animal companion better than anyone else. And while your veterinarian can guide you with objective information about diseases, and even provide a personal perspective of a disease condition, the final decision about euthanasia rests with you.

VETERINARY CARE

If you are considering euthanasia, some of the following points may help you gauge your pet's quality of life.

- Pets with chronic or incurable diseases that are given proper medication and care should be able to eat, drink and sleep comfortably without shortness of breath.
- Your pet should act interested in “what’s going on” around him, be able to perform mild exercise and have control of his urine and bowel movements (unless the principal disease affects one of these organ systems).
- Even your ill pet should appear comfortable and free of moderate to severe pain. Of course, whenever there is a chronic condition, some days will be better than others and one should learn to expect the natural “ups and downs” that attend most chronic disease conditions. You need to determine what balance is acceptable.

There are also veterinary issues and medical care issues that may influence your judgment. If your pet is taking medication for a disease condition, ask your veterinarian if side effects of the medicine could be involved with any adverse symptoms such as lack of appetite, vomiting or diarrhea (but DON’T stop giving prescribed medication until you speak with your veterinarian). Sometimes it is the medicine, not the disease, that makes a pet appear more ill and adjusting the dose or changing the medicine can have a very positive effect.

Of course, some diseases are very difficult, expensive or time-consuming to treat. The medical bills that may accumulate can influence your decision regarding euthanasia. These are practical decisions that must be made relative to your own financial and family situations. Though a lack of financial or personal resources for medical care may be a source of guilt to you, it is better to discuss the overall situation with your veterinarian rather than allow your pet to suffer without proper veterinary medical care.

WILL IT HURT?

The following is a description of a typical euthanasia procedure. If you do not wish to read about this procedure, please close this document now.

Euthanasia is very humane and virtually painless. First, you will likely be asked to sign a paper – an “authorization for euthanasia” (or similar document). If you decide to go ahead you will be given a number of options: you may be present (with the pet) during the euthanasia; you may be absent for the procedure but wish to see your pet after euthanasia; or you may want to say

goodbye to your pet prior to euthanasia and not see him again. Once you have decided upon your involvement in the euthanasia process, you will need to decide what you would like to have done with the remains. You can discuss your options with your veterinarian before the euthanasia procedure.

Euthanasia is usually performed by a veterinarian. The most typical procedure involves an intravenous injection of a barbiturate anesthetic given at a high concentration (overdose). In general, the euthanasia is rapid, usually within seconds, and very peaceful. Your pet will just go to sleep. On rare occasions there may be a brief vocalization or cry as consciousness is lost; this is not pain although you may misinterpreted it as such.

Within seconds of starting the injection the anesthetic overdose will cause the heart to slow and then stop, and any circulation in the body will cease. As the heart stops and the blood pressure decreases, the unconscious animal will stop breathing, circulation to the brain will cease and your pet will die peacefully.

Once your pet has died, you might observe involuntary muscle contractions or respiratory gasps about one or two minutes after the loss of consciousness and circulation. Again this is not evidence of pain or consciousness, but instead, it represents a physiologic response that occurs whenever the brain is deprived of circulation. The unconscious animal may also lose bladder or bowel control. Veterinarians often cover the pet immediately after injecting the euthanasia solution to partially shield the pet owner from these physiologic responses, which may still be disturbing.

HOME CARE

Keep your pet as comfortable as possible during any chronic illness or disease. Encourage him to eat and drink, unless your veterinarian has asked you not to do so, and keep him clean and dry. Speak with your veterinarian if you have any questions or concerns regarding the diagnosis or treatment of your pet's disease.

Pet loss by natural causes, trauma or euthanasia is always difficult, and there are pet loss support groups available throughout the country. If you have specific questions about euthanasia or you would like more information about pet loss support groups, please contact your veterinarian.

GRIEF IN DOGS AND CATS

THE LOSS OF A PET

Because our pets cannot speak, we don't really know what what they are thinking. We must base our interpretations of their emotional state on their behavior – what they do in certain situations and under specific circumstances.

When a person experiences the death of a human loved one, we may know they feel grief based on what they say. Very often, however, it is how they react, what they do that tells us they are suffering. They lose their focus, become listless and disoriented, don't eat and become disinterested in what is happening around them. They may cry or go without sleep or they may

sleep more.

An animal that is experiencing the loss of another animal companion may react similarly. "Some animals can actually become depressed when they lose a loved one," says Monique D. Chretien, MSc, AHT, Animal Behavior Consultant. "They show symptoms similar to humans such as loss of interest in their favorite activities and sleeping more than usual. However, sometimes dogs and cats hide and sleep more than usual when they are ill, so you should consult with your veterinarian before seeing a behaviorist if your pet exhibits symptoms such as these."

Your pet may lose his appetite, become disoriented, or become more clingy. If the deceased pet was taken to a veterinarian to be euthanized, the grieving pet may sit at the window for days watching for her return. Animal behaviorists commonly call this emotional state, separation anxiety. On the surface, the pet's behavior is similar to that of a person experiencing grief over the loss of a loved one.

The American Society for the Prevention of Cruelty to Animals conducted a Companion Animal Mourning Project in 1996. The study found that 46% of cats ate less than usual after the death of another cat companion. In some extreme cases, the cat actually starved to death. About 70% of cats meowed more than normal or meowed less. Study respondents indicated that surviving cats changed the quantity and location of sleep. More than half the surviving pets became more affectionate and clingy with their caregivers. Overall, the study revealed that 65% of cats exhibited four or more behavioral changes after losing a pet companion.

If your pet shows signs that she is grieving the loss of an animal or human family member, provide her with more attention and affection. "Try to take her mind off it by engaging her in a favorite activity," says Chretien. If she enjoys human company, invite friends that she likes to visit and spend time with her. Use environmental enrichment techniques such as balls filled with treats to help keep her busy. Hide toys at her favorite spots for her to find during the day.

If your pet is too depressed over the loss, she may not respond to extra activity right away. The old saying, "Time heals all wounds," has meaning for your pet, too. "Time is one thing that may help," says Chretien.

If your dog is barking more or whining, distract her. Don't give her treats to distract her or you might unintentionally reinforce the barking. "Giving attention during any behavior will help to reinforce it so be sure you are not reinforcing a behavior that you don't like," says Chretien. "Give attention at a time when your dog is engaging in behaviors that you do like, such as when she is resting quietly or watching the birds. As the pain of the loss begins to subside, so should the vocalizing as long as it is related to the grieving process."

You may also want to consult with your veterinarian regarding drug therapy to help decrease your dog's anxiety, advises Chretien.

If you are thinking about adding another pet, wait until you and your surviving pet have adjusted to the loss. Forcing your pet to get to know a newcomer will only add stress to her already anxiety-ridden emotional state. And be patient. Your pet may miss her companion as much as you do.

EXPLAINING PET LOSS TO CHILDREN: SIX DO'S AND DONT'S

PET LOSS & CHILDREN

Death and dying are two of the hardest facts of life to explain to children. Very often, the death of a family pet is a child's first encounter with this immutable law of nature. How we handle this event can have a far-reaching impact on our children's understanding of death and dying.

Eleven-year-old Maria, for instance, was used to greeting her cat Feifel every day after school. One day, he didn't appear. Maria and her mother found Feifel under a bed, breathing weakly. The veterinarian said Feifel had heart disease. He might be able to save him, but Feifel was 14 and suffered from several other age-related problems.

His quality of life would only grow worse. The most humane course to take was euthanasia. Later, her family held a memorial service, and Maria wrote poems about him.

AN INFORMAL GUIDE TO A CHILD'S PSYCHE

At 11, Maria understood euthanasia and the finality of death. It didn't make the grieving and sense of loss any easier, but she knew that all living things eventually die. After some time, she was able to remember her pet with more love than hurt.

But children younger than Maria often view their relationship with a pet as indefinite. They don't understand that animals run on a different biological clock, or that illness or injury may make euthanasia the best option.

At all ages, honesty is the best policy, says Marty Tously, a bereavement counselor. "That means using the words death and dying, and explaining the permanence of death. You do it gently but without confusing what dying actually means."

Tously is a counselor with the Pet Grief Support Service. She says that a child's ability to understand what death means depends on his/her emotional and cognitive development, but outlined the generally understood guideline of how children perceive death and dying:

Under 2: A child can feel and respond to a pet's death, based on the reaction of those around him or her. A child picks up the stress felt by family members, no matter what the cause.

2 to 5: The child will miss the animal as a playmate, but not necessarily as a love object. They will see death as a temporary state – something like the way leaves fall off a tree in fall but grow back in the spring. As they perceive the trauma around them, however, they may regress in their behavior (e.g., thumb sucking).

5 to 9: Children begin to perceive death as permanent, but they may indulge in "magical thinking," believing that death can be defied or bargained with. This is also the period when children recognize a correlation between what they think and what happens. For instance, a child may resent taking care of the pet and wish – however briefly – that the pet would die. If the pet then dies, the child is often consumed with guilt. Parents need to reassure children that they did not cause the pet's death.

10 and up: Children generally understand that all living things will eventually die, and that death is total. Understanding and accepting are two different things, however. They may go through the normal stages of grief that grownups do: denial, bargaining, anger, guilt, depression and acceptance. (To learn about the stages of grief, see the story *Coping with Pet Loss*.) Or they may react in other ways:

- Depending on the age, the child may regress (sucking their thumb or temper tantrums that they had outgrown).
- An older child may withdraw from friends and family for a while. Schoolwork may suffer and they may seem uninterested in extracurricular activities.
- Children may fear abandonment. If a pet can die, then they may reason that their parents could die as well.
- Children often become intensely curious about death and what happens to the body. They may ask for details that you may find uncomfortable to explain. These are questions you should answer in a straightforward, gentle and careful manner.

DO'S AND DON'TS

Tously explains that the worst course of action is to lie (to say the animal went away) or to use confusing euphemisms, such as the phrase “put to sleep.” Children will eventually learn the truth, and lying can breed resentment and destroy trust between parent and child. “Later in life, when the child learns the truth, they’ll wonder what else the parent lied about,” she says.

Likewise, euphemisms can cause anxiety or confusion because children take what you say literally. “If you say a pet is put to sleep, the child may suffer sleep anxiety,” says Tously. She recalls one child who was told his cocker spaniel just “went away.” He awaited his dog’s return, and upon learning the dog had been buried wanted to unearth the dog. “If you say ‘God has taken your pet because he was special,’ the child may resent God, and fear who might be next.”

- Be open and honest. This includes the pet’s health and euthanasia. “If a pet is terminally ill and needs to be euthanized,” Tously says, “the child needs to be told as soon as possible by the parent.” Again, avoid those tempting euphemisms that cloud understanding, such as telling a child the pet was put to sleep. Use the words death and dying to make your meaning clear. Some children want to be present during euthanasia and most will be very curious about the process. Tously says you should answer their questions. As for allowing the child to be present, some veterinarians are firmly against it; others say it depends on the child’s age and maturity.
- Make sure the child understands what “dying” means. Explain that the animal’s body stopped working. Depending on your religious beliefs and what the child can understand, you might explain the concept of a soul. However, it is important for the child to know that the pet has died and will not be coming back.
- Be available to let your child discuss his/her feelings about what happened. You may want to hold your own service to memorialize the pet and to say goodbye formally. Some people plant trees in a special spot in the yard, others bury the pet in a cemetery so the family can visit. Encourage your child to show his/her feelings by talking or writing about the fun times they had with their pet.
- Show your own feelings. This tells the child that the pet was special and that they are not grieving alone. You can also encourage your child to open up, which can help the healing process.
- Tell your child’s teachers about the loss, so they will understand why your child is behaving differently.

- Don't blame the veterinarian. Some parents, especially those who fear explaining euthanasia to their children, find it easier to lay it all on the vet. This is not only unfair to the veterinarian, but potentially harmful to the child. He or she may grow up distrusting veterinarians and, by extension, doctors and other medical professionals.

In addition, parents shouldn't throw the responsibility of telling the children what needs to be done on the veterinarian. Your veterinarian can help the parent explain why euthanasia may be the most humane option, and answer questions the child may have.

Parents often want to ease their child's hurt by rushing out and buying another pet. Tously says this is a mistake. "The last thing you want to do is convey the impression that the pet – a family member – is replaceable," she says. Wait until the child expresses an interest in another pet.

Children are very resilient, and they usually learn to accept their pet is gone. If a child persists with nightmares or seems unable to cope, however, it may be necessary to talk with a counselor.

WHERE TO TURN FOR HELP

Local shelters often hold workshops and support groups to help people after pet loss. Contact your local shelter for information. There are also a number of organizations dedicated to helping people cope around the country. To find one in your state, visit the Delta Society Web page at www.deltasociety.org/dsn701.htm

WHEN TO CONSIDER EUTHANASIA IN DOGS

A PET'S QUALITY OF LIFE

Many pets suffer with chronic diseases, such as cancer, that can often be managed in such a way that life is prolonged, although the quality of life is greatly diminished. For most pet owners this issue greatly influences the decision concerning euthanasia. Certainly, quality of life is a personal judgment; you know your animal companion better than anyone else. And while your veterinarian can guide you with objective information about diseases, and even provide a personal perspective of a disease condition, the final decision about euthanasia rests with you.

WHAT AILING PETS SHOULD BE ABLE TO DO

If you are considering euthanasia, here are some guidelines to help you decide whether your pet would benefit. Pets with chronic or incurable diseases that are given proper medication and care should be able to:

- Eat, drink and sleep comfortably without shortness of breath
- Act interested in what's going on around them
- Do mild exercise
- Have control of their urine and bowel movements - unless the disease affects one of these organ systems
- Appear comfortable and free of moderate to severe pain

Of course, whenever there is a chronic condition, some days will be better than others and one should learn to expect the natural "ups and downs" that attend most chronic disease conditions. You must determine what balance is acceptable for your own situation. Speak with your veterinarian if you have any questions or concerns regarding the diagnosis or treatment of your pet's disease.

THE EFFECTS OF MEDICATION

If your pet is taking medication for a disease condition, ask your veterinarian if side effects of the medicine could be involved with any adverse symptoms such as lack of appetite, vomiting or diarrhea (but DON'T stop giving prescribed medication until you speak with your veterinarian). Sometimes it is the medicine, not the disease, that makes a pet appear more ill and adjusting the dose or changing the medicine can have a very positive effect.

THE HIGH COST OF CARE

Of course, some diseases are very difficult, expensive or time-consuming to treat. The medical bills that may accumulate can influence your decision regarding euthanasia. These are practical decisions that must be made relative to your own financial and family situations. Though a lack of financial or personal resources for medical care may be a source of guilt to you, it is better to discuss the overall situation with your veterinarian rather than allow your pet to suffer without proper veterinary medical care.

THE HARDEST DECISION

Euthanasia – often referred to as “putting a pet to sleep” or “putting an animal down” – literally means an “easy and painless death.” It is the deliberate act of ending life, and pet owners that must make this decision often feel anxiety or even guilt.

Before the procedure is done, the pet owner will be asked to sign a paper that is an “authorization for euthanasia” or similar document. Euthanasia usually is performed by a veterinarian and is a humane and virtually painless procedure.

Most pet owners are given the following options for witnessing the procedure. They may be present with the pet during the euthanasia. They may wish to see their pet after euthanasia. Or they may want to say goodbye to their pet before the euthanasia and not see their pet after the procedure.

WILL IT HURT?

Note: The following is a description of a typical euthanasia. If you do not wish to read about this procedure, please close this document.

Euthanasia is very humane and virtually painless. First, you will be asked to sign a paper – an “authorization for euthanasia” (or similar document). Once you have decided upon your involvement in the euthanasia process, you will need to decide what you would like to have done with the remains. You can discuss your options with your veterinarian before the euthanasia procedure.

Euthanasia is usually performed by a veterinarian. The most typical procedure involves an intravenous injection of a barbiturate anesthetic given at a high concentration (overdose). In general, the euthanasia is rapid, usually within seconds, and very peaceful. Your pet will just go to sleep. On rare occasions there may be a brief vocalization or cry as consciousness is lost; this is not pain although you may misinterpreted it as such.

Within seconds of starting the injection the anesthetic overdose will cause the heart to slow and then stop, and any circulation in the body will cease. As the heart stops and the blood pressure decreases, the unconscious animal will stop breathing, circulation to the brain will cease and your pet will die peacefully.

Once your pet has died, you might observe involuntary muscle contractions or respiratory gasps about one or two minutes after the loss of consciousness and circulation. Again this is not evidence of pain or consciousness, but instead, it represents a physiologic response that occurs whenever the brain is deprived of circulation. The unconscious animal may also lose bladder or bowel control. Veterinarians often cover the pet immediately after injecting the euthanasia solution to partially shield the pet owner from these physiologic responses, which may still be disturbing.

AFTER THE GOODBYE

Before the euthanasia, discuss what you want done with the body with your veterinarian. Again, this is a matter of personal taste and preference.

- Burial at home. Many people who own their homes chose to bury their pet in their yards. Great care must be given to bury your pet deep enough – at least three feet - to deter predators. It is recommended to wrap your pet in plastic and place several large rocks on top of their remains before covering with earth. Many cities have ordinances against home burial so check with your local officials before laying your pet to rest.
- Cemeteries. Similar to human burial, a casket and headstone are selected. Services are available with or without viewing of the remains. Ask your veterinarian or check your local telephone directory to find a nearby pet cemetery.
- Cremation. Typically, cremation is available in most large cities. Some crematories will privately cremate your pet so you can save the ashes for scattering, burial or storing in an urn. Check with your veterinarian about contacting an animal crematory center.
- Other options. There are a few nontraditional choices available regarding the handling of pet remains. Some people choose to consult a taxidermist and others may be interested in cryogenics, which involves freezing the remains. Research and many telephone calls may be necessary to find sources for these options.

PROS AND CONS OF SPAYING AND NEUTERING IN DOGS

OVERVIEW

It's time to start thinking about spaying or neutering your dog. But, maybe you are not quite sure if it is the right thing to do. If you're wondering whether you should just leave your dog as nature intended, consider the positive and negative aspects of spaying and neutering before making your decision.

First, what does neutering mean? Neutering is a procedure used to "de-sex" an animal. This procedure has been used to control animal population growth, reduce unwanted sexual behavior in pets, and decrease or eliminate the possibility of certain disease conditions later in life, such as pyometra or infection in the uterus.

Castration is a term used to describe the removal of the gonads (testicles) in male animals. Spaying is a term used to describe the sterilization procedure of females. The procedure of spaying most often consists of removal of both the ovaries and uterus, which is called an ovariectomy. Both procedures are performed under general anesthesia and both involve a surgical incision.

Neutering is done most commonly at or around six months of age. However, many veterinarians perform this procedure earlier – as early as 8 to 10 weeks in some situations. Early neutering can be done safely and has a number of advantages, especially in cases of pet adoption.

SPAYING – THE POSITIVE SIDE

- Spaying removes the risk of pregnancy.

Pet overpopulation is a serious issue and by allowing your dog to have litters, you are adding to the problem. Finding homes for your new family additions is not as easy as you may think. Even if you choose to keep the puppies, you now have the additional cost of vaccines, parasite control, toys and food for several pets. In addition to costs, the health of the mother can be in jeopardy during delivery. Some new mothers can have serious complications delivering puppies and can even develop health problems during nursing. All these potential problems can be avoided by spaying your dog.

- Spaying makes for a cleaner, calmer dog.

Without the drive to mate, your dog may be quieter and not prone to an incessant need to seek out a mate. The spayed dog no longer attracts males and their annoying advances and serenades. Dogs won't have a bloody discharge for several days while they are in heat. Without proper protective products, the discharge can stain sofas, bedding and carpets. Spayed pets are also easier to get along with. They tend to be more gentle and affectionate.

- Spaying keeps your dog healthier.

A final positive aspect of spaying your dog is that spayed pets tend to have fewer health problems. Spaying is the removal of the ovaries and uterus. Without these organs, ovarian cysts, uterine infections and cancer of the reproductive tract are no longer a concern. Studies have shown that dogs spayed before puberty have a significantly lower chance of developing breast cancer than unsplayed dogs or dogs spayed later in life.

SPAYING – THE NEGATIVE SIDE

- Spaying means sterilization.

Spaying will result in the sterilization of your dog, and she will no longer have the ability to become pregnant. In the era of pet overpopulation with thousands of unwanted pets being euthanized each year, this is really not so bad.

- Spaying may cause weight gain.

Some pets may gain weight after spaying and as they get older. Just as with people, to lose weight we need to either diet or exercise. Cutting back on food intake or increasing your pet's activity will help reduce weight gain.

NEUTERING – THE POSITIVE SIDE

- Neutering removes the risk of pregnancy.

Pet overpopulation is a serious issue and by allowing your dog to breed, you are adding to the problem. Although you may not own the female dog, and you are not burdened with finding homes for those new puppies, someone else is. Even if you accept your responsibility and choose to keep the puppies, you now have the additional cost of vaccines, parasite control, toys and food for several pets.

- Neutering makes for a calmer dog.

Another positive aspect of neutering your dog is that neutering can result in a calmer, and sometimes cleaner, home. Without the drive to mate, your dog may be quieter and not prone to

an incessant need to seek out a mate. The neutered dog no longer feels the need to seek out and serenade females. He no longer has the stress of needing to mark his territory and urinate throughout the house and yard. Neutered pets are also easier to get along with. They tend to be more gentle and affectionate. Neutered males tend to roam less and typically are not involved in as many fights with other animals.

- Neutering keeps your dog healthier.

A final positive aspect of neutering your dog is that neutered pets tend to have fewer health problems. Neutering is the removal of the testicles. Without these organs, testicular cancer is no longer a concern and the risk of prostate problems is reduced. For those people who would like to sterilize their dog but do not wish to alter his appearance, testicular implants are available.

NEUTERING – THE NEGATIVE SIDE

- Neutering is sterilization.

Neutering will result in the sterilization of your dog. He will no longer be able to reproduce, so if you intend to breed your animal, do not have him neutered.

- Neutering changes his appearance.

Your dog will look different because his testicles will no longer be present. If the absence of these organs is a cosmetic problem for you, discuss testicular implants with your veterinarian.

- Neutering may cause weight gain.

Some pets gain weight after neutering. Cutting back on his food or increasing his activity can help reduce the weight gain.

Last year about 17 million dogs and cats were turned over to animal shelters. Only one out of every 10 taken in to the shelters found a home. This means that over 13.5 million had to be destroyed. The tragedy is that this is unnecessary. Much of the problem could be eliminated by simple surgery: Spaying and neutering operations are performed under general anesthesia and are quite painless. By neutering pets, owners can help lower the numbers of unwanted and homeless creatures.

10 WAYS TO HELP AN ARTHRITIC DOG

HELPFUL TIPS

Arthritis refers to inflammation or swelling in a joint. The cause can be abnormal bone or joint development, instability of the surrounding ligaments and tendons, damage or injury to the joint, an infection, or injury caused by the immune system. While anti-inflammatory medicines are popular treatments for arthritis, another approach involves protecting the cartilage in the joint and “nourishing” the joint. Here are 10 tips that may help your arthritic dog.

1. Slip-free Flooring. Hardwood and tile floors are slippery and can be very difficult for dogs with arthritis to navigate. Placing carpet or area rugs will help secure your dog’s footing. This can help prevent him from slipping and injuring himself.

2. A Soft Bed. Soft bedding can help support the bones and joints, making your pet more comfortable. This can be especially important in thin dogs in which bony prominences are likely to rub on hard surfaces. Some beds are made especially for dogs with arthritis, such as waterbeds, hammock beds, and beds with plenty of extra cushion.

3. Ramps or Cubes. Stairs and furniture can become difficult obstacles for your aging companion. Ramps or specially designed cubes can help pets safely climb stairs, get into or out of bed or get in and out of your vehicle. Ramps can be made of plastic or wood and are available from many pet catalogs. A new product called "Puppy Stairs" are soft modular cubes that fit together in combinations that permit pets to climb up or down from beds or sofas. These cubes are made of soft rubber, have rounded corners and washable covers. For more information about "Puppy Stairs", visit www.puppystairs.com.

4. Medication. Various medications are available that can help your pet feel better. Drugs classified as nonsteroidal anti-inflammatory drugs can work to suppress inflammation and pain by inhibiting synthesis of the class of compounds called prostaglandins. See your veterinarian to discuss if any medication could benefit your pet.

5. Peace & Quiet. As your dog ages, he may not be as tolerant or patient as he used to be. Sore joints make it difficult for your pet to enjoy rambunctious playful children. Supervise playtime and consider keeping your dog away from very young children. Even parties and holiday time can be distressing for an arthritic dog. He may want to join in the festivities regardless of the discomfort. To reduce joint pain and inflammation, you may want to limit his time as the center of attention.

6. Massage. Massage can increase flexibility, circulation, calmness and a general sense of wellness. Professional animal massage therapists are available to provide your pet a more thorough treatment.

7. Weight Control and Dietary Therapy. Arthritis is more of a problem in obese pets. Weight loss can be beneficial by helping to reduce the workload on the bones and joints. Read the article "Is Your Dog Too Fat" to determine if your pet is overweight. See Obesity in Dogs on how to help your obese dog. In addition to basic weight loss, diets formulated for pets with arthritis may be beneficial in some dogs. Diets, such as Hills® Science Diet® j/d™ and Purina® JM Joint Mobility™, supplemented with Omega-3 fatty acids, glucosamine, chondroitin sulfate have been shown to help dogs with arthritis maintain weight, reduce pain and improve mobility.

8. Exercise. Modest daily exercise can help some dogs. Special care is needed, so it is important to first see your veterinarian, who can recommend an appropriate exercise program. Exercise can strengthen the muscles and ligaments thus reducing the potential and risk of injury. See The Importance of Exercise in the Senior Dog to help explain why this is so important for your arthritic friend.

9. Extra Time. Don't rush a dog with arthritis. It often takes them extra time to walk, climb stairs or get in and out of the car. Support and help them if needed or just give them extra time to get around.

10. Grooming. Grooming should not be neglected, especially in the older dog. Arthritic dogs have a difficult time keeping themselves clean, especially in those hard to reach areas. Help your dog stay clean by trimming the hair around the rear end. Brushing will help remove mats and tangles, which can injure delicate older skin.

HOW TO BRUSH YOUR DOG'S TEETH

BRUSHING TEETH

Dental disease (especially periodontal disease) is the most common disease in our canine companions. It is also one of the most preventable and treatable diseases. Fortunately, we can reduce or even prevent dental disease by feeding a crunchy diet, appropriate chew treats and toys and daily tooth brushing. The following are steps to guide you on how to brush your dog's teeth:

- The first step is to start with a clean, healthy mouth. Good dental hygiene should start with a young pet with healthy new teeth and gums, or after your pet has had a professional dental cleaning.
- You will need a soft-bristled tooth brush and veterinary toothpaste. Human toothpastes and baking soda may cause problems. Furthermore, veterinary toothpastes have flavors that are appealing to dogs. Anything other than a bristled tooth brush will not get below the gum line, which is the most important area to brush.
- There are several important facts about our pets' mouths that tell us when, where and how to brush. Periodontal disease usually affects the upper, back teeth first and worst. Plaque builds up on the tooth surface daily, especially just under the gum line. It takes less than 36 hours for this plaque to become mineralized and harden into "tartar" (calculus) that cannot be removed with a brush. Because of this progression, brushing should be done daily, with a brush to remove the plaque from under the gum line.
- Pick a time of day that will become a convenient part of your pet's daily routine. Just before a walk or before a daily treat can help your pet actually look forward to brushing time. Take a few days to let both of you get use to the process. Follow with praise and a walk or treat each time.
- Start by offering your dog a taste of the veterinary toothpaste. The next time, let him taste the toothpaste, then run your finger along the gums of the upper teeth. Repeat the process with the tooth brush. Get the bristles of the brush along the gum line of the upper back teeth and angle slightly up, so the bristles get under the gum line. Work from back to front, making small circles along the gum lines. It should take you less than 30 seconds to brush your pet's teeth. Do not try to brush the entire mouth at first. If all that your pet lets you brush is the outside of the upper teeth, you are still addressing the most important area of periodontal disease – prevention. If your pet eventually allows you to brush most of his teeth, so much the better.
- Even with the best tooth brushing, some dogs may still need an occasional professional cleaning, just like humans. By brushing your pet's teeth daily and curtailing the amount of periodontal disease, you may reduce the frequency and involvement of dental cleanings and provide your pet with a healthier, sweeter smile.

SHOULD YOU BREED YOUR DOG?

SHOULD YOUR DOG REPRODUCE?

You love your dog dearly and think, wouldn't the world be a better place if there were more dogs just like her or him? However, before you breed your dog, take some time to consider whether or not it is the best thing to do and whether you are doing it for the right reasons. Make this decision carefully and only after a lot of research and talking with experienced breeders.

Breeding dogs is not as simple as it sounds. To safeguard the health of your dog and his or her

offspring, you need to be able to handle any situation you encounter. Ask yourself the following questions:

- Do you have the time to dedicate to breeding? The time you will need to spend with your new pups will increase dramatically.
- Will you be able to afford the costs involved in vaccinating and deworming the pups?
- If you can't find new homes for the new babies, are you willing to keep them? This means more feeding and more cleaning. Remember you started with one dog; you may end up with a total of six to eight or even more.

THE WRONG REASONS

One of the worst things you could do would be to breed your dog for the wrong reasons. Each year about 17 million dogs and cats are turned over to animal shelters. Out of every 10 that were taken in, only one finds a home. Of the rest, some 13.5 million must be destroyed.

The suffering and sorrow associated with pet overpopulation is overwhelming. And yet, much of it could be eliminated by breeding only for the right reasons.

Some of the wrong reasons:

- You want to breed because puppies are soooooo cute. Keep in mind they will grow up quickly and may be not be so cute anymore. What will you do then?
- You want to let your kids experience the miracle of birth. Unfortunately, the whelping process has usually been completed by the time you realize it and everyone has missed "the miracle."
- You want to breed so that you can sell the puppies. Unless you are serious about promoting a particular breed, it is unlikely that buyers will knock at your door to buy. Even if you choose to breed a particular breed, you will likely not make a significant profit.
- You just want to see what you'll get by breeding an English bulldog with a golden retriever. This is not a good reason to breed. Animals are not experiments; they are not created to satisfy one's curiosity.

THE RIGHT REASONS

To be a responsible breeder, consider every aspect before proceeding. For the best experience, remember that every dog has physical and emotional needs. Also realize that If you are going to breed, it should only be done for the right reasons.

The best reason to breed your dog is to promote a particular breed. There are plenty of mixed breed dogs in the world, and breeding should only be done after careful consideration and discussion with experienced breeders. Only top quality members of a breed should be used. You should also make sure you have homes for all the potential puppies, even before breeding.

If, after plenty of soul searching, you have decided to breed your dog, remember that giving away those puppies can be difficult. Not everyone will provide a suitable home. You will need to interview prospective buyers and ask them about the purpose of having the dog, the set-up for the dog, their lifestyle (for instance, if they travel a lot, who will be the caretaker) and whether they have the time, patience and tools to care for their new family member properly.

If the answers tell you that this person is a suitable mama/papa, a new home is found. If not, you will have to turn down the sale regardless how much money is involved.

Remember no one can decide whether or not to breed your dog but you. After much

consideration, you should make the best decision for your family and for your dog.

10 THINGS YOU SHOULD DO BEFORE YOU BOARD YOUR DOG!

CHECK LIST

Here is a checklist of 10 important steps to consider before boarding your dog. Consideration of each of these items will help you and your dog to have a good boarding experience.

1. Interview - Interview the kennel on the phone. Find out how long they have been in business and ask for references. Use those references. Make a surprise visit or tour the facility before you schedule the boarding. Notice the place is clean, smells, check out where the dogs are boarded, where they are walked and if they seem....happy. Do any dogs have messes in their cages?
2. Look for Recommendations - Talk to a few kennels before you decide where to take your pet. Also, ask your friends or neighbors where they have boarded their pet and what their experiences have been. Recommendations go along way. Don't go for the cheapest place. Go for the best place.
3. Determine Kennel Requirements - Does your pet need any special vaccines for this kennel? If so, what and when? Do they need a copy of the vaccine record? Can you supply your own food and treats? Can you leave any toys or his favorite blanket? Can you leave your pets leash, collar or harness?
4. Check out Kennel Staff - Find out about the consistency with the staff – is it the same person seeing your dog everyday or someone new? It is someone who knows about pets or a high school student shoveling food into the cages? Does the staff appear competent and do they look like they enjoy working with the dogs?
5. What is the Dog's Schedule? - How often do they go out? Where are they walked? For how long? Is that enough to make your pet happy? Will you dog interact with other dogs? Is that what you want?
6. Feeding Instructions - Consider taking your dogs own food and request that they kennel only feed his food. Many pets are fed other foods and treats and can develop gastrointestinal upset such as vomiting and or diarrhea. Your pet is already in a new environment which is most likely a bit stressful; so don't change anything you don't have to.
7. Contact Information - Ensure that the kennel has your numbers where you can be reached in the case of an emergency. Include your cell phone and any emergency contacts. Plan for the unexpected.
8. Emergency Instructions - Just in case of an emergency, leave instructions on how to proceed. During emergency hours, the kennel may use a certain veterinarian or emergency hospital. During the day, if you want your pet to go to your regular veterinarian – leave your vets name and phone number. Leave instructions on what you do and don't want and a contact number or

credit card number for emergency medical care. If you are not available by phone, make sure they have the authorization to make charges if care is required. You don't want your pet "waiting" for medical care because of lack of credit card authorization.

9. Medical History - Obtain a copy of your pets pertinent medical record from your vet and give a copy to the kennel. Ideally, this record should include any medications, diagnosed conditions and problems . Include any behavioral quirks e.g. aggressive to other dogs or if he hates cats. Leave information about his tag and microchip numbers.

10. Leave Special Instructions - Make sure you clearly indicate any special instructions. For example, if you pet requires medications, ensure the name of the medication, dose (both in mg and number of pills, and frequency are clearly indicated. Also communicate any special foods or dietary restrictions. Keep the instructions simple with a contact number to call in the case of questions.

PET SITTER INSTRUCTIONS FOR YOUR DOG

INSTRUCTIONS

To help you get the most out of your pet sitter, print and fill out the following instructions:

CONTACT INFORMATION

Your Name _____

Your Address _____

Phone # _____ Cell # _____

Emergency Vet # _____

Vet Name _____

Vet Phone # _____

Vet Address _____

Your Contact Information _____

Other Emergency Information _____

Other Emergency Contact _____

INSTRUCTIONS

PET 1.

Name _____

Description _____

Eats (Type of food) _____

Amount _____

Frequency _____

Food is kept _____

Likes to play _____

Likes to go out _____ times per day

Favorite toy _____

Favorite place to walk _____

Leash is kept _____

Medications needed _____

Special Instructions _____

Important medical history _____

PET 2.

Name _____

Description _____

Eats (Type of food) _____

Amount _____

Frequency _____

Food is kept _____

Likes to play _____

Likes to go out _____ times per day

Favorite toy _____

Favorite place to walk _____

Leash is kept _____

Medications needed _____

Special Instructions _____

Important medical history _____

PET 3.

Name _____

Description _____

Eats (Type of food) _____

Amount _____

Frequency _____

Food is kept _____

Likes to play _____

Likes to go out _____ times per day

Favorite toy _____

Favorite place to walk _____

Leash is kept _____

Medications needed _____

Special Instructions _____

Important medical history _____

AGGRESSION IN DOGS

OVERVIEW

If you have ever been bitten by a dog, you are certainly not alone. More than 2 percent of people in the United States are bitten each year – that's more than 4.3 million people! But what causes aggression and how should an owner handle it in dogs?

Aggression in dogs is defined as a threatening or harmful behavior directed toward another living creature. This includes snarling, growling, snapping, nipping, biting and lunging. Dogs that show such behavior are not abnormal; they are merely exhibiting normal species-typical behavior that is incompatible with human lifestyle (and safety). There are many reasons why a dog will act aggressively toward strangers or even his owner.

The first step, when attempting to find out why your dog is being aggressive, is to take him to

your veterinarian. Some veterinarians will visit you at your home - but dogs tend to be more aggressive on “their” territory. If there’s no medical cause for the aggression, your veterinarian may refer you to a behaviorist, who will then obtain a full behavioral history and recommend therapy.

Even if treatment appears to be successful, you should always be on guard. The frequency and severity of aggression may be reduced but, in most cases, aggression cannot be eliminated completely. You must weigh the risks of keeping an aggressive dog against the benefits. Remember, safety for yourself and people around you is the primary concern!

DIAGNOSIS

In the course of a veterinary examination, your veterinarian will determine if there is a medical reason underlying your dog’s aggressiveness. For instance, a dog with neck pain may show aggression when pulled by the collar.

Once medical causes have been ruled out, your veterinarian will refer you to a behaviorist. At the behaviorist’s, you’ll be asked to answer many detailed questions regarding your dog’s behavior. The session may last a couple of hours. An accurate description of your dog’s behavior is necessary. Keeping a journal is helpful. You should note:

- What elicits the aggression
- How often it occurs
- To whom it is directed
- The specific behaviors
- The dog's postures at the time

Videotaping your dog’s behavior is helpful for the behaviorist, but don’t get hurt while making the video. Answers to the many questions asked can lead the behaviorist to establish the cause of the aggression, and then outline an individualized approach to its treatment. The behaviorist will also provide a professional opinion of the risk involved.

Aggression is influenced by several factors, including: genetic predisposition, early experience, maturation, sex, age, size, hormonal status, physiological state and external stimuli.

Behaviorists use a classification system based on patterns of behavior and the circumstances in which they occur. This is done to determine the dog’s motivation and the cause of the behavior. The classification is as follows:

- Dominance-related aggression is one of the most common types of canine aggression that behaviorists treat. The aggressive acts are directed toward one or several family members or other household pets. Dogs are pack animals, and they relate to humans as members of their own species and pack members.
- Territorial aggression is directed toward approaching animals or people outside of the pack in defense of a dog’s area (home, room or yard), owner or fellow pack member.
- Inter-male aggression between adult males usually involves territorial or dominance disputes. Inter-female aggression occurs most frequently between adult females living in the same household.
- Predatory aggression is directed toward anything that the dog considers prey, usually other species, but sometimes any quick-moving stimulus, like a car or bike.
- Pain-induced aggression is caused by a person or animal that causes pain. It often occurs when a person attempts to touch a painful area or when injections are given.

- Fear-induced aggression occurs when people or animals approach a fearful dog. This is common when the dog cannot escape, and is sometimes seen when an owner uses severe punishment. Active, unpredictable children may also stimulate this type of aggression.
- Maternal aggression is directed toward anyone that approaches a bitch with puppies or in false pregnancy.
- Redirected aggression occurs when a dog that is aggressively motivated redirects the aggression from the source to another. For example, a dog that is barking at the door may redirect his aggression onto an owner that is pulling him back. Dominant dogs often redirect onto subordinates.

TREATMENT

Treating aggressive behavior may involve a combination of behavior modification techniques (habituation, counterconditioning and desensitization), drug therapy, surgery (such as neutering/spaying), avoidance and management (such as leash or head halter). Each case is unique, and the success of treatment varies depending on the diagnosis and in accord with your capability, motivation and schedule.

Even with successful treatment, however, there is no guarantee that the aggressive behavior won't return. In most cases, the frequency and severity of aggressive behavior can be reduced but the aggressive behavior cannot be eliminated completely. The best that may be hoped for is to reduce the probability of aggression. You must weigh the risks of keeping an aggressive dog against the benefits.

HOME CARE

If your dog is unpredictable, consider using a comfortable basket-style muzzle until you can get professional help. Until you receive professional help, avoid all interactions that trigger your dog's aggression. Do not attempt physical punishment. This can increase the intensity of your dog's aggression and may result in serious injury. Avoiding problems may involve:

- Keeping your dog confined in a separate room when visitors or children are present
- Housing or feeding your dogs separately if they are fighting with each other
- Removing objects like bones or rawhides that your dog may be guarding

Do not allow children to have unsupervised access to your dog. Children should be taught to avoid interacting with dogs that are eating, chewing on a bone, or resting. They should not be allowed to tease or hurt dogs.

Keep your dog on a leash at all times. In the home, you may want to attach a thin nylon leash on a buckle collar, which your dog can drag comfortably. This will give you safer control over him. Indoor leashes can be attached to head collars for even greater control. If your dogs are fighting, do not get in the middle. Interrupt the aggression using water, a loud noise, blanket or spray.

BARKING

BARKING PROBLEMS

Dogs bark for a variety of reasons, some good, some not so good. Sometimes barking is a welcoming signal, other times not. Sometimes dogs bark briefly, and other times they just won't quit. And therein lies a problem.

By nature, some breeds tend to bark more than others. Beagles and Shetland sheepdogs, for instance, tend to be very vocal. Greyhounds and basenjis, by contrast, rarely bark.

Barking is a form of communication. When people or other dogs are around, barking can be a statement intended specifically for them. When a sound is used as a means of communication from one creature to another, the rudiments of language exist. Language after all is just a complicated arrangement of verbal/vocal cues. We can communicate with dogs by means of our language, but we are often rather poor at understanding their requests. Phrases such as "come here," "leave it," "stop it," inform the trained dog what must be done, but their barking often leaves us stymied.

Barking serves different purposes. Sometimes it is used to repel and sometimes to attract. Some barking tones indicate, "stay away," whereas others (particularly in the appropriate context) can be interpreted to mean, "I'm over here, where the heck are you?" Even the most inexperienced of dog watchers will notice that dogs have a variety of different types of barking ranging from the muted "woof" of appreciation or alarm to loud angry series of barks indicating aggression.

Barking often serves as an alarm call. Many owners appreciate such alarm barking and some domestic dog breeds have been selected for an enhanced warning system of this nature. When the barking produces the desired result, the "language" is reinforced and perpetuated. But not all of this "language" is wanted or appreciated by friends or family (let alone the neighbors). The key to dealing with barking is to be able to turn it off.

WHEN BARKING IS A PROBLEM

In order to deal with a barking problem, you first need to know why your dog is barking.

TO GET ATTENTION

Most people get a little irritated when the family dog barks and gets whatever he wants. These dogs are pushy individuals who insist on getting their own way, demanding attention and the limelight. This is the kind of dog that will not allow you to sit peacefully and relax. Instead, he will bark in your face demanding to have a ball thrown, to be allowed on someone's lap, to be given food from the table, etc.

So what allows a dog to become like this? In a word, conditioning. Although we sometimes don't realize it, we are training our dogs all the time through our actions. No dog will persist in a strategy that doesn't work, whether that strategy is barking, whining, or crying. Whatever produces the goods is what is reinforced. A dog that barks to get attention will have been trained to do so by random intermittent reinforcement for barking. Barking for attention, if ignored, will intensify before it dissipates, because the dog will try even harder, at first, to make his point. Here are some suggestions on how to deal with an attention-seeking barker.

- Attention withdrawal. Ignore the "bad" behavior and only respond with attention when the dog is quiet. You should not make direct eye contact with the dog, speak to him, or touch him, when he is barking. To the attention-seeking dog, any attention is better than no attention - even if it's in the form of scolding.
- Bridging stimulus. If the attention withdrawal becomes tedious, a bridging stimulus can be employed to hasten progress. A bridging stimulus is a neutral sound, such as a duck call, or

even a click, that is made as soon as the dog begins a tirade. It signals that you're about to withhold attention. This strategy can produce a speedier resolution of attention-seeking barking than simply ignoring the dog's barking because it focuses the dog's attention on the consequences of its actions.

- Punishment. Audible punishment can be a deterrent. This can be done by issuing a command, such as "No Bark!" and punishing the dog by shaking a "shake can" (a can with a stone inside of it) or by blasting an air horn/fog horn if he does not respond to the command immediately. The technique sometimes works, but audible punishments are only really effective for more sensitive types of dog.
- Counterconditioning. Counterconditioning involves training the dog to do something that is incompatible with his previously conditioned behavior, in this case barking. For example, you can train your dog to go to his bed, where he will receive praise from you and perhaps a long-lasting food treat, whenever the stimulus that previously caused barking occurs, such as mealtime or talking with someone on the telephone. The new behavior (eating and lying quietly) replaces and is incompatible with barking for attention.

SEPARATION ANXIETY BARKING

Then there's barking caused by separation anxiety, which often takes place as you prepare to leave or when you're not around. There are two types of separation anxiety barking:

- The acute, hysterical type of barking that occurs within minutes of the owner's departure, representing panic - a cry for help.
- The more chronic variety of more monotonous barking expressed by dogs that have all but given up on their ability to do anything about their predicament.

The two types of barking have similar causation yet sound different and represent different stages of the same condition. The acute variety a distress barking takes the form of intermittent bouts of "expectant" barking, perhaps interspersed with bursts of whining, designed to attract the attention of the owner (or, in some cases, anyone) to the dog's miserable plight. The treatment for this problem is the same as the treatment of separation anxiety because separation distress is at the root of the problem. Too many owners fail to recognize their dog's suffering when irate neighbors complain of being disturbed by the dog's incessant barking. Instead of viewing the problem as a problem for their dog, they only see it as a problem for them. Punishment of such behavior is an all-too-frequent and misguided solution. Physical punishment at any time, especially after the fact, is not only pointless but is counter-productive and inhumane.

More chronic "stereotypic" barking, with its monotone and seemingly mindless motivation, also derives from separation anxiety. It occurs once the purpose of the dog's barking has altered to become a simple release for anxious energy - a displacement behavior. Stereotypic barking indicates that a dog has been left alone for extended periods for years and has all but lost faith in its ability to summon anyone's attention to its plight. In this respect, chronic displacement barking is a barometer of long-term suffering. The humane solution for these dogs is to give them their due by making arrangements to prevent them from having to experience such isolation and futility in the future. Training them not to bark misses the point and will often not work, anyway. Punishment is inhumane. For such characters, much more fundamental issues have to be addressed to bring about resolution of the problem in hand.

OTHER CAUSES OF BARKING

TERRITORIAL BARKING

One of a dog's main duties around the home is to bark and warn off any strangers and alert fellow pack members that an intruder is approaching. This function is very much appreciated by many owners and has prevented many a burglary. Having a dog in the house is as good, if not better, than having an electronic surveillance system. But problems arise when overly enthusiastic dogs continue to bark longer than is necessary to alert its owners of approaching persons.

The trick is to train the dog to stop barking once the warning has been acknowledged. For most dogs this is usually not too much of a problem. A "good dog" or "thank you" is sometimes all that is needed to acknowledge the dog's warning of a stranger's approach. It's good manners, too, to thank your dog for performing his duty. If barking persists following your acknowledgement and thanks, however, a "cease" command, like "stop it!" or "enough!" should be used afterwards to call an end to it.

Training the dog to the "stop it!" command should be performed using positive reinforcement. The reinforcement is provided when the dog has stopped barking for at least 3 seconds. You may have to wait for a while at first, but the dog will eventually get the message if the reward is sufficiently potent. Because you can't have visitors standing outside the door for 30–minutes, waiting to be let in, you should orchestrate training sessions using a volunteer visitor who has the time and patience to see you through the session.

TYPICAL SEQUENCE

- Stranger approaches and rings the doorbell. Dog barks. Owner says, "Good dog, thank you."
- Dog continues to bark. Owner says "Enough!"
- Dog continues to bark. Owner remains motionless. Stranger waits.
- Dog eventually stops. (They all do, eventually). Owner says, "Good boy!" and the dog is given a delicious food treat as a reward for stopping barking.
- Stranger rings the bell again. This sequence is repeated until the dog is responding more quickly.

Training session should always finish on a good note with the dog being rewarded for quiet behavior. The stranger then withdraws. This exercise should be repeated daily for several days until the dog stops barking quickly (less than 3 seconds) on command and remains quiet as the visitor enters the home.

If all else fails, you may need to resort to a slightly more direct method. The preferred technique is using the Gentle Leader® head halter.

First train the dog to wear the head halter without struggling. Fit the device and a 10-foot long training lead before a planned visit from a friend. Your dog will bark as the stranger approaches. Praise the dog for barking, and then issue the command "enough." If the dog continues to bark, apply gentle, steady upward traction to the training lead, which will cause the dog's nose to be elevated and will transmit pressure to the dog's muzzle and nape via the nose-band and neck strap, respectively. Maintain the tension until the dog relaxes and is quiet. Then release the tension and praise the dog for quiet behavior (even though you made it happen!).

If you consistently silence the dog in this way by applying tension to the muzzle (via the head halter) and nape (via the neck strap), the dog will learn that it is hopeless to disobey the "enough" command. It learns that you inevitably intercede and take control of the situation using

this powerful, yet gentle, training tool.

Another technique, with or without the assistance of a head halter, involves counterconditioning your dog. As mentioned before, this means training him to do something incompatible with the behavior in question; in this case barking at the door or in the yard, after you have conceded that there actually is someone out there. You could, for example, train your dog to go to an out-of-the-way part of the house and relax whenever strangers appear and reward him (extremely well) for this behavior.

Caveat: One problem most owners face when trying to train their dog not to bark at the door is that they try to manage too many things at once; controlling the dog, opening the door, greeting the stranger, and ushering in the stranger, all at the same time. For optimum success, you need to set up trial approaches from volunteer strangers and apply your concentration to handling your dog.

Finally, the territorial dog that is motivated by fear is a slightly different situation. Although some of the above measures might help with such a dog, the chances of success are more limited. These dogs are actually anxious/fearful around strangers and may never settle down, even after the stranger has been welcomed. Such dogs need to be enrolled in a "total package" program in which they are not only controlled at the door but are also systematically desensitized to strangers, perhaps starting such an exercise on neutral territory at first.

REACTIVE BARKING

Some dogs don't just bark at approaching strangers - they bark at anything that moves or alters their environment: a passing car, a falling leaf, an icicle breaking off, and so on. Such dogs are the antithesis of the lazy old coonhound that takes everything in his stride: They are constantly on "red alert" for anything that might happen. This type of dog can be difficult to cohabit with, especially if you don't need that degree of protection. Highly reactive dogs take their self-defensive and family-guarding responsibilities way too far. Perhaps by nature, perhaps by nurture, these dogs trust no one and regard every environmental change as a threat.

So, how do we persuade these dogs that their mission is pointless when each environmental disturbance eventually stops, thus reinforcing the behavior? The answer is that we can't. All you can do, with your veterinarian's help, is to address any medical contributions to such hyper-reactivity, provide adequate exercise, ensure an appropriate diet, and attempt to exercise the best physical control possible. This type of treatment is not too far removed from the program to control territorial barking; only its application may need to be even more intense.

If medical problems like hypothyroidism or attention deficit hyperactivity disorder (ADHD) underlie the problem, the fix may be a quick one. If not, then you have your work cut out. Above all, it is important to enrich the lives of such reactive barkers so that they understand what is, and what is not, worth barking about. The innate drive for dogs to bark plus our own mismanagement can produce a dog whose behavior is so ingrained that it takes medication (in addition to behavior modification therapy) to effect even a marginal improvement. It's far better to act early to prevent such a progression.

HOW TO DEAL WITH "ACCIDENTAL HOUSESOILING"

HOUSESOILING

Let's face it. A new puppy is likely to have small accidents around the house, even though you may do your utmost to prevent them. No system is perfect, especially when it involves an active and curious, puppy with incomplete control over its bladder and bowels. Let's consider the three different scenarios when it comes to you, the owner, encountering a house soiling incident.

BEFORE THE FACT

If you are sitting at a table, minding your own business, and all of a sudden you notice your puppy sniffing the ground, circling, or (oh, no!) beginning to squat - stay cool. Do not suddenly jump up, yell, and charge at the puppy, as it will not comprehend such erratic behavior on your part. Instead, create a diversion, make a sound by banging on the table, or slamming a drawer, or even rattle a "shake can," if you have one handy, to startle the little critter's sphincters into contraction. But note: the diversionary noise should not be seen (or rather heard) to come from you. Rather, it should just happen – a sudden rude interruption of what was otherwise to be a wistful moment. If the puppy turns and looks at you, you might even shrug your shoulders as much to say, "Who me?" But, at the same time, make your way over to the mite, pick it up, and physically take it to an appropriate location, whether to strategically-placed newspapers or to the great outdoors.

CAUGHT IN THE ACT

If you enter a room to find your puppy midstream, or mid-bowel movement, once again, stay calm. It's not a mortal sin, it's an accident and there's nothing done that can't be undone. Again, you might want to make a diversionary noise to attenuate the elimination process and then carry or walk your pup to an appointed, acceptable location so that it can finish what it started. Later, return to the offending spot, clean up the mess with a paper towel or sponge and some water, and then treat the soiled area with a proprietary odor neutralizer. Nothing more, nothing less. Above all, remember not to punish the pup for its indiscreet behavior. It doesn't know any better. It's your job to teach the pup, not its responsibility to instinctively know what you want it to do. Punishment will only cause the pup to avoid eliminating in your presence and that will make housebreaking extremely difficult. Anyway, it's unfair to punish a pup for failing to learn the proper location for elimination when you are the teacher.

AFTER THE FACT

If you walk into a room or come home to find an unexpected puddle or pile on the floor, do not immediately set out to catch and punish your puppy. Don't yell, spank, or rub its nose in it. None of this behavior is appropriate or humane. Punishment of a pup that is caught in the act at the time is bad enough, but punishment after the fact is a disaster and will not be associated by the pup with what it has done. Its "accident" will have occurred minutes or even hours earlier and many other things will have happened in its life since that time. To have you suddenly come ranting toward it, shouting obscenities, and with your hand raised will only confirm, in the puppy's mind, that you are truly psychotic and not to be trusted. This will increase its anxiety, especially around you, and will likely exacerbate the very problem that you are attempting to resolve (i.e. elimination in the house). The correct response in this situation (though you may be fuming inside) is to coolly, calmly, and collectedly, clean up the mess and neutralize odors as described above. Then think about why the accident may have occurred. Ask yourself how long ago the puppy was last taken outside. Were you asking the impossible – for the puppy to contain itself for longer than it was physically capable? Did you feed the pup and forget to take it outside? Was it transitioning from one behavior to another and you failed to capitalize on the

opportunity? Whatever the cause, try and ascertain what it was and do something about it for the future.

LAST TIPS

Positive punishment, doing something physically to a dog to deter a particular behavior, is never indicated when training puppies or, indeed, adult dogs. This is especially true when it comes to housetraining. The correct approach is to train the pup to do what you want it to do rather than to punish an unwanted behavior. While negative punishment, withholding some desired resource, has a place in obedience training, even this training technique, has no place when trying to housebreak a pup. The only thing that you, the owner, needs to do is to show the pup where you want it to eliminate and reward it richly for eliminating in that location. Simultaneously, deprive the pup of opportunities for inappropriate elimination by being cognizant and ever vigilant. Keep a regular schedule and handle clean up in a matter-of-fact way. Don't omit to use odor neutralizers when cleaning up messes as the odor of a previous soiling incident will attract the pup back to the same site as surely as a heat-seeking missile finds its source of heat. Odor neutralizers destroy the chemicals that cause the smell, thus completely eliminating this particular incitement for indoor elimination.

NIPPING AND MOUTHING BY DOGS

NIPPING AND MOUTHING

When puppies play with each other, they use their mouths a lot. When they play with you or when they are petted, they usually want to bite or "mouth," too. This behavior is not frankly aggressive at this stage – though it may be pre-aggressive.

There are two different life stages in which mouthiness can be an issue – before maturity and after maturity. The pre-maturity variety, all too often not taken seriously, and misguidedly interpreted as puppy play, leads to the adult version.

Bear in mind that it is easier to "nip" the problem in the bud at this stage by training youngsters what is and is not acceptable behavior. Even if the behavior has been permitted to flourish into adult maturity, it is still possible to take corrective measures.

PUPPY MANNERS

When pups are raised by their mothers, there comes a time when mom starts to set limits. Demanding youngsters often want to nurse whenever they feel like it, but a good mom starts to rebuff some of their efforts from the tender age of about 3 weeks. Nipping is also addressed, not just by mom but by the pup's littermates as well. Too hard a nip might result in a physical admonishment from mother, or the nipped littermate may cry out and stop playing. These natural checks and balances help to develop a puppy's good manners and eventual understanding of their impact of certain behaviors on others.

When a puppy is raised by a well-meaning human caregiver, however, proper limit setting is sometimes neglected. Some new puppy owners do not realize that nipping is not acceptable behavior and that they should discourage it.

However, a certain amount of puppy mouthing is acceptable, even desirable, in the very early stage of a pup's life. If a pup doesn't engage in any oral behaviors toward his minders, he can never be taught when enough is enough. To emphasize this point, consider improper rearing of usually inscrutable chow pups as an example of what can go wrong. As cute as they are, chow puppies are often too serious for their own good, don't play much, and may be reluctant to interact. If not coaxed out of this indifference, the first time they lay teeth on skin may not be until they're 18 months old and the message they deliver at this stage is likely to be overkill – sometimes with disastrous results.

Instead, permit and even encourage mouthiness, even nipping – up to a point. But when mouthing becomes annoying, or the pup's needle teeth start to make an unforgettable impression, it's time to curtail the behavior. The idea is to teach the pup that humans are soft and ouchy. Let's suppose your puppy nips you for the first time when it is 4 months of age. Having carefully planned out your course of action, you wait until the next time your pup lays his teeth on you, withdraw your hand rapidly, and loudly exclaim "OUCH." Your interaction with the pup should then cease for a few minutes, just as would happen if the pup were with his littermates. You are teaching "bite inhibition"

- an essential early lesson for any family dog.

If things turn out as they should, your pup will adore you, respect you, and understand that, even in extreme situations, humans do not need to be punctured in order to send them an intense signal. Having your dog understand this concept should be part of an overall strategy of limit setting and control. Not engaging in such a program with a would-be dominant dog often leads an unwitting owner down a sorry path of avoidance and subservience – a sorry state of affairs, and sometimes a dangerous one, too.

ADULT NIPPING AND MOUTHINESS

Adult dogs that exhibit excess grabby oral behaviors do so because they have not been properly schooled as youngsters. They may nip you or grab people by the arm to indicate their wishes or admonitions. Being nipped and grabbed by your dog against your will is a fairly distressing consequence for an owner. The correct way for an owner to deal with such a problem is to immediately implement a "leadership" program in which the dog must learn that all good things in life come from you – and for a price. One common name for such a program is Nothing in Life is Free.

As for adult nipping, avoid circumstances that can lead to nipping while working on the leadership program. If nipping or grabbing occurs do not shout, try to wave your arms around, or pull away. Instead, "turn to stone" and reward the dog when he lets go and stops nipping. A refinement of this approach to management of the mouthy dog is to arm yourself with a clicker and/or delicious food treats and ignore him when he engages in any rude and rough nipping behavior. The clicker is clicked and the food treat is supplied when his nipping ceases. Specifically, 3 seconds after a bout of mouthy behavior stops you should click, say "good dog," and offer him a food treat. For more frenetic nippers, a head halter with training lead attached can be employed as negative reinforcement to increase the frequency of the desired behavior – letting go when instructed, e.g. Out!

CONCLUSION

Many people don't realize that attention in any shape or form, positive or negative, may serve as a reward and can reinforce an unwanted behavior. If a dog takes hold of your arm and you start

to yell and wave your arms around or push the dog away, you may be perceived as a big squeaky toy that can be animated for amusement when the going gets slow. If your dog meaningfully grabs your arm with his mouth when you grab him by the collar, and you retreat, the dog's bad behavior is rewarded, ensuring that the behavior will be repeated in the future. The only way to avoid scenarios like this is to set certain limits and to become your dog's unequivocal leader.

SUBMISSIVE URINATION IN DOGS

OVERVIEW

Submissive urination can be a frustrating and embarrassing problem. Fortunately, it is often easily corrected. Shy, timid puppies are the most likely candidates for submissive urination but occasionally it persists into young adulthood. This problem is most common in female puppies under 1 year of age.

Situations that precipitate submissive urination include:

- Over affectionate greetings
- Guests entering your home
- Arguments between people
- Scolding
- Loud noises

Dogs are social animals that use subtle cues to maintain order and prevent disputes. In order to display deference to a more dominant individual, a submissive dog uses gestures such as averting her eyes, rolling on her back, and urinating. So when a dog feels intimidated or threatened, the appropriate response is to offer a submissive signal. These signals demonstrate that the dog recognizes another individual's dominance. The urination that occurs is not a spiteful act but a natural part of a dog's behavioral repertoire.

Before embarking on treatment for this problem, it is wise to contact your local veterinarian. He or she will perform a physical examination of your dog to rule out medical problems that may be contributing to the predicament. If medical problems are involved, your vet will discuss the various treatment options with you like surgery, drugs, and/or various coping strategies.

Note: Puppies become more confident as they grow older. Most puppies outgrow submissive urination before one year of age. Unfortunately, some owners inadvertently encourage the behavior by coddling their nervous youngster. Touching and praise, which you may believe are reassuring your puppy, are actually telling her, "Continue this behavior; I like it." Instead, try to ignore timid behavior and praise the puppy when she is acting more confidently.

TREATING SUBMISSIVE URINATION

There are two objectives in treating submissive urination: The first is to increase your dog's confidence, and the second is to avoid situations in which the behavior will occur until your puppy becomes more mature. Begin by observing which situations elicit the inappropriate urination behavior. Knowing these, you can design a plan of action.

- Take your dog to non-confrontational training school. Click and treat training is best. A properly trained dog is usually more confident.
- Try to expose your dog to as many novel environments as possible. But remember, do not coddle. Praise the dog only when she shows confidence and explores the new environment.
- Encourage confidence by playing tug of war, retrieving games or play fighting.
- Scolding and punishment DO NOT WORK. They only make the dog feel more powerless and less in control.
- Do not loom over the dog, touch her nape, or make prolonged eye contact. These are all dominant signs and will be interpreted as such. Ask strangers to avoid greeting your dog or, alternatively, crouch down to the dog's level, avert their gaze, and gently encourage her to approach.
- Limiting your dog's intake of water when you know guests are coming over can sometimes help. Pick up the water bowl (and close the toilet bowl lids) 3 to 4 hours prior to their arrival. Caution: some dogs with medical problems that increase their thirst should never have water withheld. If in doubt, check with your veterinarian.
- If your dog urinates out of excitement when you return home and greet her, try to downplay the greeting by ignoring her for a few minutes until she calms down. If the problem occurs when friends greet her ask them to do this, too.

The above procedures help a great deal in avoiding urination whoopsies until the dog becomes more confident. Positive changes are usually seen in a few weeks, if not sooner. If submissive urination persists after 2 years of age, drug therapy can be instituted at the discretion of your veterinarian. And remember, be patient; accidents will happen.

Prevention is the easiest way to deal with submissive urination. The right style of obedience class can be an excellent confidence booster for your dog. Such classes can also open your eyes to the ways that you unconsciously reinforce a negative behavior, and will teach you the importance of well timed praise (and other rewards) in a healthy relationship with your dog.

10 HOUSEHOLD PLANTS THAT ARE DANGEROUS TO DOGS AND CATS

Over 700 indoor/outdoor plants contain toxic substances that may harm dogs and cats. If these plants are ingested, signs of poisoning can be mild to severe, sometimes even causing death.

Most houseplants have multiple names, so it is important to confirm that the houseplants you currently own or may purchase are not toxic to your pet.

Asparagus Fern

Asparagus fern (also called emerald feather, emerald fern, sprengeri fern, plumosa fern, and lace fern) is toxic to dogs and cats. The toxic agent in this plant is sapogenin—a steroid found in a variety of plants. If a dog or cat ingests the berries of this plant, vomiting, diarrhea, and/or abdominal pain can occur. Allergic dermatitis (skin inflammation) can occur if an animal is repeatedly exposed to this plant.

Corn Plant

Corn plant (also known as cornstalk plant, dracaena, dragon tree, and ribbon plant) is toxic to dogs and cats. Saponin is the toxic chemical compound in this plant. If this plant is ingested, vomiting (with or without blood), appetite loss, depression, and/or increased salivation can occur. Affected cats may also have dilated pupils.

Dieffenbachia

Dieffenbachia (commonly known as dumb cane, tropic snow, and exotica) is toxic to dogs and cats. Dieffenbachia contains a chemical that is a poisonous deterrent to animals. If this plant is ingested, oral irritation can occur, especially on the tongue and lips. This irritation can lead to increased salivation, difficulty swallowing, and vomiting.

Elephant Ear

Elephant ear (also known as caladium, taro, pai, ape, cape, via, via sori, and malanga) contains a chemical similar to the one in dieffenbachia, so an animal's toxic reaction to elephant ear is similar: oral irritation, increased salivation, difficulty swallowing, and vomiting.

Lilies

Many plants of the lily family are considered toxic to cats, and some are considered toxic to dogs. Cats are the only animals in which the Easter and stargazer lilies are known to be toxic. Generally, a cat's first toxic reaction to this plant includes vomiting, lethargy, and a lack of appetite, but severe kidney failure, and even death, can quickly follow if a cat is untreated. The peace lily (also known as Mauna Loa) is toxic to dogs and cats. Ingestion of the peace lily or calla lily can cause irritation of the tongue and lips, increased salivation, difficulty swallowing, and vomiting.

Cyclamen

Cyclamen (also known as sowbread) is a pretty, flowering plant that is toxic to dogs and cats. If ingested, this plant can cause increased salivation, vomiting and diarrhea. If an animal ingests a large amount of the plant's tubers—which are found at the root, generally below the soil—heart rhythm abnormalities, seizures, and even death can occur.

Heartleaf Philodendron

Heartleaf philodendron (also known as horsehead philodendron, cordatum, fiddle-leaf, panda plant, split-leaf philodendron, fruit salad plant, red emerald, red princess, and saddle leaf) is a common, easy-to-grow houseplant that is toxic to dogs and cats. This philodendron contains a chemical that can irritate the mouth, tongue, and lips of animals. An affected pet may also experience increased salivation, vomiting, and difficulty swallowing.

Jade Plant

Jade plant (also known as baby jade, dwarf rubber plant, jade tree, Chinese rubber plant, Japanese rubber plant, and friendship tree) is toxic to cats and dogs. The toxic property in this plant is unknown, but ingestion of it can cause vomiting, depression, ataxia (incoordination), and bradycardia (slow heart rate; this is rare).

Aloe Plant

Aloe plant (also known as medicine plant and Barbados aloe) is a common, succulent plant that is toxic to dogs and cats. Aloin is considered the toxic agent in this plant. This bitter, yellow substance is found in most aloe species and may cause vomiting and/or the urine to become reddish.

Satin Pothos

Satin pothos (also known as silk pothos) is toxic to dogs and cats. If ingested by a cat or dog, this plant may irritate the mouth, lips, and tongue. The pet may also experience an increase in salivation, vomiting, and/or difficulty swallowing.

Learn More

For a full list of toxic and non-toxic indoor and outdoor plants, visit the American Society for the Prevention of Cruelty to Animals (ASPCA) website at www.asPCA.org or The Humane Society of the United States website at www.humanesociety.org.

ABDOMINAL RADIOGRAPHY

Abdominal radiography is painless, very safe, and noninvasive, and it can sometimes be performed during an outpatient visit while you wait.

Abdominal radiography is useful for evaluating the size, shape, and position of abdominal organs.

Sedation is sometimes recommended for patients undergoing radiography.

Radiography can help your veterinarian diagnose numerous medical conditions involving the intestines, bladder, and other abdominal organs.

What Is a Radiograph?

A radiograph (sometimes called an x-ray) is a type of photograph that reveals the body's internal organs. The procedure for obtaining a radiograph is called radiography. Radiography is a very useful diagnostic tool for veterinarians because it can help obtain information about almost any organ in the body, including the heart, lungs, and abdominal organs, as well as the bones.

How Does Radiography Work?

Traditional radiography machines use very low doses of radiation delivered in a focused beam (an x-ray) that is aimed at a photographic plate containing specialized photographic film. The patient is positioned between the x-ray beam and the photographic plate. When the x-ray beam passes through the patient, an image is created on the specialized film. Structures that are very thick or dense, such as bone, do not allow much of the beam to penetrate and expose the film. These structures look very bright or white on a radiograph (see the x-ray image). In contrast, structures that are not dense (such as gas in the intestines) allow the beam to penetrate more completely and expose the film. As a result, these structures appear relatively dark when the radiograph is viewed. Structures that are of medium density, such as fluid, appear in various shades of gray on the film.

Digital radiograph machines use a very similar principle, but the final image can be much sharper and can show greater detail than images obtained from traditional radiography machines.

How Is Abdominal Radiography Performed?

Abdominal radiography is painless, safe, and completely noninvasive. Your pet will be positioned on the x-ray table, and the width of the abdomen will be measured. This is necessary for precisely adjusting the intensity of the x-ray beam to capture the most accurate information. Once the measurements are complete, the x-ray tube (which will generate a beam of low-level

radiation) is aligned over the abdomen, and a button is pushed on the radiograph machine to take the “photograph.” This part of the procedure is very much like taking a photograph with a camera. In most cases, at least two “pictures” are taken from different angles to create a three-dimensional image of the abdominal organs.

Your veterinarian may recommend that your pet receives sedation before undergoing radiography. When an animal is sedated, positioning is much easier because the patient is completely relaxed. Sedation may also be recommended if the patient is in pain.

What Are Abdominal Radiographs Used For?

Abdominal radiography may be recommended to investigate a variety of clinical signs, including the following:

Abdominal pain

Vomiting

Diarrhea

Appetite loss

Weight loss

Abnormal urination or defecation

Lethargy

Radiographs are used to examine the size, shape, and position of the abdominal organs. The size of organs is important because some medical conditions can cause enlargement of the kidneys, liver, spleen, or other abdominal organs. Some chronic conditions, such as chronic kidney disease or chronic liver disease, can cause these organs to appear smaller than normal on a radiograph. The shape and position of organs can be altered or distorted by certain medical conditions, including intestinal blockages or cancer. Radiography is sometimes used to detect pregnancy and determine the number and position of the fetuses. Tumors, depending on their size and position, can be detected using radiography. Fluid or gas in the abdomen can also be detected through radiography. Conditions such as internal bleeding or intestinal perforation (holes) can cause fluid or gas to collect in the abdomen.

Radiography can be used to diagnose many other conditions involving abdominal organs, including bladder stones, kidney stones, and intestinal foreign bodies.

What Are the Benefits and Risks of Abdominal Radiography?

Radiography has many benefits and very minimal risks. It is very safe, completely painless, and non-invasive. It is available in most veterinary practices and can sometimes be performed during an outpatient visit while you wait. Depending on the type of radiographic study being performed, the procedure may take only a few minutes.

The risks of radiography are minimal. Because the level of radiation exposure needed to perform radiography is very low, even pregnant females and very young pets can undergo radiography. If a pet is very unstable, such as a pet with severe breathing difficulties, the stress of performing radiography may be a concern. In these cases, it may be necessary to stabilize the pet (with oxygen or other therapy) before attempting to perform radiography. In the vast majority of cases, the benefits of performing radiography far outweigh the possible risks. Radiography is a valuable tool for your veterinarian because it can provide critical information about many different illnesses and medical conditions.

ADMINISTERING MEDICATIONS TO YOUR DOG

Before you leave your veterinarian's office with a new medication, be sure to address any concerns or questions with your veterinary team.

It is very important to follow all label directions carefully.

Do not risk being bitten or otherwise injured while trying to medicate your pet. If you are unable to administer medication, your veterinarian may be able to offer other options.

Understanding the Medication Instructions

The first part of successfully administering medication to your dog is making sure that you understand the instructions for giving the medication. These instructions include route of administration (for example, by mouth, into the ears, or into the eyes), dosing frequency (such as once daily, every 12 hours, or every 8 hours), duration of treatment (for example, 7 days, until gone), and other special considerations (for example, give with food, follow with water). Sometimes there is flexibility with medication instructions; for example, some medications can be given "as needed," or a twice-daily dosing schedule may be adaptable to once-daily dosing. However, for other medications, the recommended dosing instructions need to be followed closely. Before you leave your veterinarian's office with a new medication, be sure to address any concerns regarding the medication with your veterinary team. For example, if your work schedule does not permit dosing every 8 hours, your veterinarian may be able to recommend a different medication that can be given less frequently. Ask about your pet's expected response to the treatment.

It is very helpful to write a medication schedule for your pet on a calendar, including the date and time that the medication needs to be administered. This will help you to (1) avoid forgetting to give a dose and (2) remember when the course of treatment has been completed. It is also very important to follow all label directions carefully. Improper storage (such as keeping a refrigerated medication at room temperature) can affect the safety and effectiveness of medication. Additionally, it is important to give the medication for the correct length of time. Complications can occur if antibiotics are not given for the full duration of recommended treatment; in addition, some medications, such as corticosteroids, cannot be discontinued without causing illness, so it is very important to give medications as directed. If your pet experiences any medication-related side effects, contact your veterinarian promptly for advice before adjusting a dosage or discontinuing the medication.

Administering Pills

If you've never given a dog medication before, it can be difficult to know what method will work best. Some dogs take pills very readily if the pill is hidden inside a treat (such as liverwurst, a small piece of soft cheese, peanut butter, or cream cheese) or given with a small amount of canned food. Pills can also be crushed (or capsules broken and emptied) and mixed with a small amount of canned food. However, your dog must eat all of the food right away to ensure receiving the full medication dose. Also, some coated pills and capsules have a bitter taste if the capsule or the coating is removed. If the medication makes the food taste badly, your dog may refuse to eat it. Before choosing one of these options, ask your veterinarian if the medication can be given with food (including dairy foods such as cheese). You will probably know after the first or second dosing whether this method will work.

If you must give your dog a pill directly by mouth, here's a method that usually works. This technique takes practice and may require more than one attempt to get your dog to swallow the pill. If your dog is not used to having your hands in or near his or her mouth (as with toothbrushing, for example), gradually introduce your dog to this by stroking your dog's muzzle and chin gently for a few moments. If you think your dog may try to bite you, do not attempt this technique; ask your veterinarian about alternative medication options, such as the following:

- Stand/kneel beside your dog (on his or her right side if you are right-handed)
- Hold the pill between the thumb and index finger of your right hand
- Using your left hand, reach over the top of your dog's nose and squeeze your thumb and middle finger between your dog's upper and lower teeth. Your thumb should be on one side of your dog's mouth and your middle finger on the other side. Try to stay behind the canine teeth (the long, pointy teeth near the front of the mouth). If you're doing this properly, the sides of the upper lip will curl in as your fingers curl in.
- Once your fingers are inside, gently tilt your dog's head back to encourage your dog to open his or her mouth.
- Once the mouth is open, use your right index finger and thumb to place the pill near the base of the tongue. Then remove your hands quickly so your dog can swallow.
- Rub your dog's throat lightly to encourage swallowing. Offering a small amount of water can also help.

Administering Liquid Medication

Some pet owners prefer liquid medication because administering it does not require placing your fingers inside your dog's mouth. However, your dog may refuse to swallow the liquid and, if your dog is very large, the amount of liquid required may be so large that it is not practical. Here are some tips for administering liquid medication:

- Draw the medication into the dropper or syringe and hold it in your right hand (if you are right-handed).
- Stand/kneel beside your dog (on his or her right side if you are right-handed).
- Place your left hand behind your dog's head to stabilize it. You can gently stroke the back of the head to distract your dog.
- Using your right hand, insert the tip of the dropper or syringe into the side of your dog's mouth. Try to stay close to the molars and away from the canine teeth.
- Once the tip is inside, empty the medication into the mouth and release your dog's head.
- Rub your dog's throat lightly to encourage swallowing.

Troubleshooting Tips

If you are unable to administer medications to your dog, here are some suggestions that may help:

- You may need help. If your dog won't cooperate with receiving medication, ask someone to help you restrain your dog while you control the head and give the medication.
- Do not risk injury. Do not risk being bitten or otherwise injured while trying to medicate your dog. If you are unable to administer medication, call your veterinarian and request advice or assistance.
- Ask your veterinarian if a different formulation is available. Some medications are available in several forms, including pills, liquid given by mouth with an eye dropper or syringe, chewable flavored treats, and transdermal gels (gel that is absorbed into the bloodstream after being applied to the skin). If a formulation doesn't work for you, ask your veterinarian if there is another option for the medication your pet is receiving.

- Consider asking the pros. Some veterinarians can arrange daily outpatient appointments for a technician or assistant to administer your dog's medication. If your schedule doesn't permit this, some veterinarians may be able to board your dog so that medication can be given until the course of treatment has been completed.

ALLERGY TESTING

Allergy testing is most commonly performed to determine if a pet has atopy, also known as atopic dermatitis or allergic inhalant dermatitis.

Allergy tests can help identify the specific allergens causing a pet's allergy problem. Once a list of "problem" allergens is identified, a specialized serum containing small quantities of these allergens can be formulated specifically for your pet.

Allergy testing poses minimal risk for your pet, and in many cases the information your veterinarian gains from this testing is invaluable.

What Allergies Can Pets Have?

The most common types of allergies in pets are flea allergy, food allergy, and a condition called atopy. Atopy is sometimes called atopic dermatitis or allergic inhalant dermatitis, and it occurs when allergens that are inhaled or that contact the skin cause an allergic reaction in the body. In dogs (and, less commonly, cats), this allergic reaction is focused largely in the skin. Animals with atopy become very itchy; the resultant scratching can lead to skin injuries and subsequent skin infections. Atopy is usually first noticed in dogs younger than 3 years of age, although older pets can also be affected. Unfortunately, some pets that develop atopy continue to have problems throughout their lives.

Many types of allergens can cause a pet to develop atopy. A wide variety of pollens, grasses, dander, insect proteins (such as in cockroaches), molds, and even house dust can cause animals to develop atopy. Animals can even develop allergies to multiple allergens at the same time. Once an animal develops atopy, the condition will continue as long as the animal is exposed to the allergen that is the source of the problem.

How Is Allergy Testing Performed?

Allergy testing is most commonly performed to determine if a pet has atopy. Allergy testing can also help diagnose flea allergy dermatitis. Most veterinarians do not use allergy testing to diagnose food allergies.

The two most common types of allergy tests used in pets are intradermal skin testing and serum allergy testing:

Intradermal skin testing: Intradermal skin testing can sometimes be performed at your veterinarian's office. However, because the allergens used for this test are very specific (they vary depending on where you live), your veterinarian may refer you to a veterinary dermatologist for this test to be performed. Usually, an area of fur is shaved from your pet's side or abdomen to expose enough skin to perform the test. Using very small needles, tiny amounts of each test allergen are injected just under your pet's skin in different areas. After a brief waiting period, the injection sites are examined to measure the degree of local allergic response, such as redness or a small hive. Allergens that your pet is not allergic to will not cause a reaction, while allergens that your pet is allergic to will cause a reaction that corresponds to the severity of the allergy.

Pets are monitored carefully during the procedure in case a serious reaction occurs and treatment is required.

Serum allergy testing: Serum allergy testing is performed at a laboratory using a small blood sample taken from your pet. Your veterinarian does not need to shave your pet or have special allergens on hand to perform this test. As with intradermal skin testing, the results of serum allergy testing can reveal which allergens are not causing an allergic reaction in your pet, which ones are causing a mild reaction, and which ones are causing a more serious reaction. Depending on which type of allergy test is performed, you may need to discontinue your pet's allergy medications for a period of time before the test. Otherwise, the test results may be affected. Your veterinarian will tell you which medications can be used and which ones may need to be discontinued.

What Does Allergy Testing Tell Your Veterinarian?

Allergy tests can help identify the specific allergens that may be at the root of a pet's atopic dermatitis. Once a list of "problem" allergens is identified, a specialized serum containing small quantities of these allergens can be formulated specifically for your pet. Through injection of small amounts of the allergy serum over time, many pets experience a reduced response to the allergens. This treatment, called immunotherapy, generally must be continued for several months to years to achieve results. With immunotherapy, the pet owner usually administers the allergy serum injections at home. If you are uncomfortable giving the injections, ask your veterinary care team if the injections can be given at your veterinarian's office. The first injections are more diluted, containing only tiny amounts of the problem allergens; each subsequent injection solution contains a slightly higher concentration of the allergens. Your veterinarian will schedule the injections according to specific guidelines—more frequently in the beginning, and eventually tapering to one injection every few weeks. Many pets respond to this program. Others may not, especially if they have other underlying conditions.

Is Allergy Testing Safe?

Very few risks are associated with performing allergy testing. If serum allergy testing is performed, drawing blood takes only a few seconds, and your veterinary team will take precautions to ensure that your pet is not injured during this procedure. Once blood is obtained, all further processing is performed at the veterinarian's office or at a diagnostic laboratory, so there is no risk of harm to your pet.

If intradermal skin testing is performed, there is a slight risk of an allergic reaction if your pet responds seriously to some of the allergens being tested. However, pets are monitored very closely during the testing procedure, and if a reaction occurs, medications can quickly be administered to treat the problem.

In general, allergy testing poses minimal risks for your pet, and in many cases, the information your veterinarian gains from this testing is very valuable.

CANINE HEARTWORM TESTING

Heartworm testing is performed to determine if a pet is infected with heartworms (*Dirofilaria immitis*).

Many veterinarians use a popular test called a "SNAP" test, which can be run in just a few minutes at your veterinarian's office.

Sometimes, additional testing is performed to gain more information about the extent of heartworm infection for a particular patient.

Heartworm testing is recommended for most dogs before beginning a heartworm preventive program. Periodic testing is also recommended for dogs already on heartworm preventive medication.

What Is Canine Heartworm Disease?

Heartworm disease is a serious and potentially fatal condition that affects dogs, cats, and up to 30 other species of animals. It is caused by parasitic worms (heartworms) living in the major blood vessels of the lungs and, occasionally, in the heart. These worms are transmitted (as microscopic larvae) through the bite of an infected mosquito. The scientific name for the heartworm parasite is *Dirofilaria immitis*.

Heartworm disease can cause a variety of medical problems affecting the lungs, heart, liver, and/or kidneys. Any of these problems, alone or in combination, can lead to death. Although safe and effective treatment is available, it can be a costly and complicated process depending on how long the dog has been infected and how severe the infection is.

How Is Heartworm Testing Performed?

Heartworms are spread through the bite of a mosquito. When a mosquito bites an infected dog, it withdraws blood that contains immature heartworms (called microfilariae [pronounced micro-fill-air-ee-ay]). These microfilariae mature inside the mosquito to become infective larvae. When the mosquito bites another dog, the larvae enter the dog and (in many cases) mature to become adult heartworms, which produce more microfilariae and continue the heartworm's life cycle.

Current testing practices can detect several stages of heartworm infection:

Testing blood for microfilariae: Using a small blood sample, your veterinarian can detect heartworm microfilariae in your dog's blood.

Antigen testing: "Antigens" are proteins that the body can recognize as belonging to a foreign organism. By identifying certain antigens that are found in adult female heartworms, researchers have developed tests that can detect these antigens to tell if a dog is infected with adult heartworms. Many veterinarians use a rapid-result test called a "SNAP" test to diagnose heartworm disease in dogs. The SNAP test is very accurate, can be performed in your veterinarian's office using a very small amount of blood, and takes only a few minutes to complete. There is even a combination SNAP test that can detect heartworm disease as well as three tick-associated diseases (Lyme disease, anaplasmosis, and ehrlichiosis) at the same time. If your veterinarian obtains a questionable result on the SNAP test, additional testing may be recommended.

Other tests: Over time, heartworms can start to cause damage to the heart, lungs, and associated blood vessels. If this damage has occurred, your veterinarian may recommend additional testing to determine the extent of your dog's illness. Additional tests may include radiographs (x-rays) to check your dog's heart and lungs for evidence of damage; ultrasound studies to check for specific injuries to the heart; and additional blood work to check the liver, kidneys, and other major body systems for evidence of damage.

No test is accurate 100% of the time, and sometimes your veterinarian may recommend performing tests more than once, or performing additional tests to learn more about your dog's overall health.

When Should My Dog Be Tested for Heartworm Disease?

Dogs should be tested for heartworms before beginning a heartworm prevention program, or when changing from one heartworm preventive to another. Dogs that are already on heartworm preventive medication should also be tested periodically.

The “prepatent period” for heartworm disease (the amount of time it takes for microfilariae to be produced) is approximately 6 months in a dog. During this time, heartworm tests will be negative even if a dog is actually infected. Therefore, puppies younger than 7 months old are generally not tested for heartworms. Instead, puppies should be started on heartworm preventive medication (usually during their puppy checkup visits) and tested when they are older than 7 months.

Ask your veterinarian about the recommended heartworm testing schedule for your dog.

What Are the Benefits and Risks of Canine Heartworm Testing?

There are very few risks associated with heartworm testing. Drawing blood takes only a few seconds, and your veterinary team will take precautions to ensure that your pet is not injured during this procedure. Once blood is obtained, all further processing is performed at the veterinarian’s office or at a diagnostic laboratory, so there is no risk of harm to your pet. The benefits of heartworm testing are enormous. If your dog is infected with heartworms, early diagnosis and treatment are the best ways to help ensure that the infection is cleared before permanent damage is done to the heart, lungs, or associated blood vessels. Heartworm disease can be fatal if left untreated, so early diagnosis and treatment can literally save your dog’s life! Be sure to keep your dog on heartworm preventive medication and follow your veterinarian’s recommendations regarding heartworm testing.

CANINE HIP DYSPLASIA

Canine hip dysplasia is a painful disease that can lead to debilitating arthritis.

It affects the “ball and socket” joint of the hip.

Canine hip dysplasia is a hereditary problem that can be influenced by lifestyle factors. Certain breeds are predisposed.

Hip dysplasia can sometimes be treated medically, but surgery is often required.

Early recognition and a program of weight management and regular exercise can sometimes slow disease progression.

What Is Canine Hip Dysplasia?

Canine hip dysplasia is a painful disease that affects millions of dogs each year. It is an inherited developmental disorder of the hip joint and can lead to debilitating arthritis. Its progression can be influenced by environmental factors, such as weight gain, nutrition, and exercise. Certain breeds, especially larger ones, are particularly prone to hip dysplasia, but the disease can affect dogs of any size and breed.

Just as in humans, the hip joint in dogs is a “ball and socket” joint. In healthy dogs, the ball and socket fit together tightly. In dogs suffering from hip dysplasia, the joint is “loose,” and the ball part of the joint may even rotate partially out of its socket. In time, this looseness causes wear and tear on the joint cartilage, leading to osteoarthritis.

Canine hip dysplasia is an inherited problem, meaning that certain breeds or families of dogs may be prone to it. For this reason, when purchasing or adopting a puppy, especially if it is a breed that is known to be predisposed to hip dysplasia, make sure the parents (if known) do not

have hip problems and that the puppy has been screened by a veterinarian for any early signs of the disease.

What Are the Signs?

The disease is painful and progressive and can affect one or both hips. It can affect very young dogs (many are less than 1 year old), but dogs of any age can be affected. Clinical signs include:

- Decreased activity level
- Difficulty rising
- Stiffness or lameness upon waking or after exercise
- Running with a “bunny hopping” gait
- Difficulty climbing stairs or getting in and out of vehicles
- Discomfort in a sitting or lying position
- Lameness
- Muscle atrophy (wasting) in the hip area

Breeds that are most commonly affected include:

- German shepherd
- Labrador retriever
- Rottweiler
- Great Dane
- Golden retriever
- Saint Bernard
- Diagnosis

A diagnosis of hip dysplasia is made based on clinical signs, physical examination, and radiographs (x-rays). Two systems have also been developed for screening and/or diagnosing dogs with hip dysplasia. Responsible breeders use at least one of these systems before including a dog in their breeding program:

The OFA System: The Orthopedic Foundation for Animals (OFA) oversees a multibreed hip registry database. The OFA’s system, which has been in use since 1966, has developed a standardized evaluation system and radiographic test to help breeders and owners assess the hip health of prospective parents as well as any puppies they may produce. Dogs must be 24 months of age or older to be included in the registry.

The PennHIP System: The PennHIP system, which was developed at the University of Pennsylvania School of Veterinary Medicine, has been in use since 1993. It uses a series of three radiographs to assess a “distraction index”—or DI—for each dog. The greater the DI, the higher the chances that the dog has or will develop hip dysplasia. The PennHIP analysis can be performed in puppies as young as 4 months of age.

Treatment

Canine hip dysplasia is a serious, progressive disease, and better outcomes are typically achieved when it is diagnosed as early as possible and management and treatment measures are initiated promptly. Risk factors for the development of hip dysplasia in dogs that are genetically prone to the disease include obesity and overfeeding large-breed puppies during growth phases.

A proper diet that helps maintain an ideal weight, combined with a veterinarian-approved, regular exercise plan, can help slow the progression of hip dysplasia for some dogs. In less severe cases, medical management can also include providing pain medications as needed under veterinary supervision as well as administering oral or injectable joint supplements or medications. “Comfort care,” such as keeping dogs out of cold weather and performing massage or physical therapy, can also help keep affected dogs comfortable and slow progression of the disease for as long as possible.

In severe cases, surgery may be indicated. Surgical options include hip replacement surgery, reconstructing the hip joint, or removing the abnormal part of the joint and allowing the surrounding structures to form a “false joint” over time. Your veterinarian will discuss the best methods of management with you and whether surgery is an option for your dog.

NOTE: Canine hip dysplasia can be an expensive disease to manage and/or treat. Before purchasing or adopting a puppy, be sure to find out the hip “status” of the parents. If that is not possible, be sure to have your puppy’s hips evaluated by your veterinarian as soon as possible.

CANINE NUTRITION

A proper diet is necessary to ensure the health and longevity of your dog.

Dogs are omnivores, meaning that they can eat meat and plants as their primary food sources. Look for a statement on the food’s label that says the food underwent AAFCO (Association of American Feed Control Officials) feeding trials.

If you prefer to feed a homemade or raw diet, it’s best to do it under the guidance of a veterinary nutritionist.

Table scraps and treats should be kept to a minimum to ensure that your dog receives balanced nutrition and does not become overweight or develop a problem (such as itchy, infected ears or a skin infection) due to a food allergy.

How Do I Choose a Dog Food?

A high-quality, complete and balanced diet is important for the health and longevity of your dog. Among other benefits, a proper diet helps build strong bones, promotes healthy gums and teeth, protects immune function, and results in a lustrous haircoat. Unlike cats, which are carnivores (meaning that they must eat meat), dogs are omnivores, meaning that they can eat meat and plants as their primary food sources.

A large number of dog foods are available at pet supply stores, so selecting a dog food can be daunting. How do you find a food that’s right for your dog? Start by asking your veterinarian the following: “Which food will meet the particular needs of my pet?” and “Which brand(s) do you recommend?”

Most pet foods are created for different life stages, including puppy, maintenance, or senior diets. Within these life stages are even more specific categories. For example, if you own a Saint Bernard puppy, you’ll need to feed a puppy food for large-breed dogs. Large-breed puppy foods are specially formulated to meet the special requirements of large-breed puppies (for example, these foods have higher amounts of calcium and phosphorus because large-breed puppies grow faster than small-breed puppies). As another example, an adult dog that is used for hunting or breeding will most likely require a maintenance diet with higher energy content.

Before purchasing a dog food, look for a statement on the label that verifies that the food underwent AAFCO feeding trials. This means that the food was tested on animals according to guidelines from the Association of American Feed Control Officials. A label that says the food meets AAFCO standards simply means that a chemical analysis of the food appears to be complete and balanced, but the food has not been tested on animals. Because some nutrients may not be digestible when fed to animals, the feeding trial statement is a better indication of the nutritional adequacy of the food.

With a complete and balanced commercial diet, vitamin supplements are usually not necessary; in fact, supplying too many nutrients can be dangerous. Consult your veterinarian before giving your pet any supplements.

Do Certain Diseases Require Special Foods?

Nutrition can help slow the progression, or manage the signs, of many diseases. For dogs with kidney disease, for example, diets lower in protein have been shown to help slow disease progression. Foods with limited or hydrolyzed proteins can help reduce the itching and scratching in many allergic dogs. For dogs with osteoarthritis, many diets now contain higher levels of glucosamine and antioxidants to help reduce pain and inflammation.

Most diets that are designed for a specific disease are prescription diets and are only available through veterinarians. If your pet has a disease or condition, consult your veterinarian for nutritional advice.

Is a Homemade or Raw Diet Okay to Feed?

The advantage of homemade diets is that they can be tailored to the specific needs of your dog. However, most homemade diets found in books or on the Internet can be too vague or too complex, and ingredient substitutions or alterations may result in a diet that is nutritionally deficient or unbalanced or is even toxic. If you really want to provide your dog with a homemade diet, it's best to work under the guidance of a veterinary nutritionist to ensure that the diet you prepare is complete and balanced for your dog.

While the proponents of raw diets claim that meat and bones more closely resemble the diet that dogs would eat in the wild, there is a lack of scientific evidence to support this idea. Raw diets have the same potential drawbacks of homemade diets: raw diets can also be nutritionally deficient and unbalanced. What's more, raw diets carry the risk of contamination with bacteria such as Salmonella, and bits of bone can break teeth and perforate the digestive tract. If you want to feed your dog a raw diet, consult your veterinarian for advice, and make sure to handle all the food and your dog's feces with care to avoid transmitting bacteria to people in your household.

What Do I Need to Know About Table Scraps and Treats?

The biggest problem with table scraps and treats is that they add unnecessary calories that can make your pet overweight. Pet obesity often leads to diabetes, increased blood pressure, and orthopedic problems, all of which can reduce your dog's life span. If your dog is overweight, consult your veterinarian about a diet and exercise plan to get your dog back to a healthy weight. In addition, many dogs are allergic to common foods, such as wheat and chicken, resulting in problems such as itchy, infected ears and skin infections.

Table scraps and treats can also upset the bacterial balance in the digestive tract, resulting in vomiting and diarrhea. Fatty treats, especially, can lead to pancreatitis (inflammation of the pancreas), which can require hospitalization. Even if your dog is fed a balanced diet, additional treats can result in unbalanced nutrition. If you can't refuse your dog's begging, consider giving your dog healthy treats such as raw carrots and green beans.

CANINE PARVOVIRUS

Canine parvovirus is a highly contagious, serious disease with a mortality (death) rate of over 90% in untreated dogs.

Canine parvovirus attacks the gastrointestinal tract and immune system of puppies and dogs. Canine parvovirus is spread by direct contact with other dogs or infected materials, such as feces, soil, and food dishes. There is no effective treatment other than supportive care, but disease can be prevented through vaccination.

Every dog should be vaccinated against canine parvovirus.

What Is It?

Canine parvovirus is a deadly disease that is caused by the canine parvovirus type 2 (CPV-2) virus. The virus attacks the gastrointestinal tract and immune system of puppies and dogs. It can also attack the heart of very young puppies.

CPV-2 is highly contagious and is spread through direct contact with other infected dogs or with infected feces. It is easily carried on hands, food dishes, leashes, shoes, etc. The virus is very stable in the environment and can survive for over a year in feces and soil through extremes of heat, cold, drought, or humidity. While up to 85% to 90% of treated dogs survive, the disease requires extensive supportive patient care and can be expensive to treat. In untreated dogs, the mortality rate can exceed 90%.

Signs of Infection With CPV-2:

- Lethargy (tiredness)
- Loss of appetite
- Fever
- Vomiting
- Severe diarrhea (often bloody)
- Affected dogs often suffer from vomiting and diarrhea and can become extremely dehydrated. In acute cases, death can occur in 2 to 3 days.

Diagnosis and Treatment

Diagnosis is made based on history, signs of disease, physical examination, and laboratory tests performed on blood and feces. There is no effective treatment for CPV-2 other than supportive care, which consists of fluid therapy, medications to control vomiting and diarrhea, and prevention of secondary infections.

Prevention

Because of the prevalence of the disease and its severity, the CPV-2 vaccine is considered a core (essential) vaccine by organized veterinary medicine, meaning that all dogs should be protected from this disease. Vaccination is the most effective way to prevent disease associated with CPV-2 infection. The CPV-2 vaccine is typically given in a combination vaccine that also protects against other serious diseases, such as canine distemper and canine adenovirus-2. Your veterinarian will give you the vaccination schedule for your dog, but in general, all puppies should receive the CPV-2 vaccine every 3 to 4 weeks between 6 and 16 weeks of age, followed

by a booster 1 year after the last dose. Thereafter, booster vaccinations are generally administered every 1 to 3 years.

Infected dogs should be kept isolated from other dogs until they have recovered and are no longer shedding (spreading) virus. The environment, bowls, etc. should be disinfected with a dilute bleach solution.

Keep puppies away from other dogs at dog parks, groomers, and pet stores until the puppy vaccination series has been completed.

CANINE SENIOR WELLNESS

As dogs grow older, their bodies become less able to cope with physical or environmental stress.

Dogs are very good at hiding signs of illness, so health problems may seem to appear quickly. Most experts agree that healthy senior dogs should see their veterinarians every 6 months.

When Is a Dog “Senior”?

With many dogs living well into their teens, many owners wonder: When is a dog truly senior? The answer is that there is no specific age at which a dog becomes senior. Individual pets age at different rates. However, most dogs become senior at 7 to 10 years of age, and most large- and giant-breed dogs become seniors earlier than small-breed dogs.

Knowing the general age of your dog can help you monitor him or her for early signs of any problems.

Health Issues in Senior Dogs

As dogs grow older, their bodies become less able to cope with physical or environmental stress. Their immune systems become weaker, and they are more prone to developing certain diseases or conditions, including:

- Arthritis
- Cancer (especially testicular or breast cancer)
- Prostate disease
- Cognitive (brain) disorders
- Intestinal problems
- Deafness
- Dental disease
- Diabetes mellitus (“sugar” diabetes)
- Kidney disease
- Liver disease
- Vision problems

This is why regular senior wellness visits with your veterinarian are important for the long-term health of your dog.

The Senior Dog Wellness Exam

Just as with people, it’s important for dogs to see their doctors more often as they age. Most experts agree that healthy senior dogs should see their veterinarians every 6 months. A thorough senior wellness exam is designed to:

- Promote the longest and healthiest life possible
- Recognize and control known health risks for older dogs
- Detect any signs of disease at their earliest, when they are the most treatable

During a senior wellness exam, your veterinarian will ask you questions to obtain a complete medical history for your dog and to determine if there have been any changes in health or behavior since the last visit. During the physical examination, your veterinarian will assess your dog's overall appearance and body condition by listening to his or her heart and lungs; feeling for signs of pain, tumors, or other unusual changes in the neck and abdomen; checking joints for signs of arthritis or muscle weakness; and examining the ears, eyes, and mouth for any signs of disease.

A routine senior wellness exam should also include the following tests to check your dog for signs of disease and to assess your dog's kidney and liver function:

- Blood pressure
- CBC (complete blood count)
- CHEM screen (liver and kidney function)
- Urinalysis
- T4 (thyroid function)
- Heartworm blood test
- Fecal test (for intestinal parasites)
-

Most veterinarians recommend that this baseline laboratory testing be conducted at least once a year in adult dogs aged 2 to 7 years, and more frequently in senior dogs. Dogs that have an existing medical problem may need testing more often.

Additional tests may be required depending on the results of routine screening tests. Which tests are necessary and how often they are performed are different for each dog, but, in general, the ones listed above will provide your veterinarian with a good "snapshot" of your senior dog's health. Over time, these test results can be tracked and compared to help your veterinarian detect any developing health trends.

Monitoring Your Senior Dog

Dogs age much more rapidly than people do. Therefore, they may appear healthy for a long time and then seem to become suddenly ill. You can help your veterinarian by keeping a close eye on your dog between exams. If you notice any unusual signs of trouble, don't wait for your regularly scheduled checkup to see your veterinarian: call right away. Signs to watch for and quickly report include the following:

- Incontinence (unable to control urine/bowel movements, or having "accidents" in the house)
- Lumps
- Constipation or diarrhea
- Shortness of breath or other difficulty breathing
- Coughing
- Weakness
- Unusual discharges
- Changes in weight, appetite, urination, or water intake
- Stiffness or limping
- Increased vocalization
- Uncharacteristic aggression or other behavior changes

- Unexplained weight loss or weight gain can be an early sign of underlying disease.

Weight management itself can also be an issue: Many senior dogs are obese, and obesity can contribute to the development of diabetes, arthritis, and other conditions.

Keeping Up With Basic Care

Along with paying more attention to your dog's health as he or she ages, you should continue routine wellness care such as parasite prevention, dental care, nutritional management, and appropriate vaccination. Maintaining proper routine care becomes even more important as your dog's immune system ages.

Take steps to ensure your dog's comfort, such as making sure that food and water bowls are still easily accessible to your old friend and that you give him or her plenty of attention and affection.

Foods for senior dogs should be lower in fat but not lower in protein. Ask your veterinarian for a recommendation. Size is used to determine when it's time to feed your dog a senior diet:

- Small breeds (dogs weighing less than 20 lb)—7 years of age
- Medium breeds (dogs weighing 21 to 50 lb)—7 years of age
- Large breeds (dogs weighing 51 to 90 lb)—6 years of age
- Giant breeds (dogs weighing 91 lb or more)—5 years of age
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Smaller, more frequent feedings are easier on a senior dog's digestive system.

You might need to give your senior dog more opportunities to urinate and defecate.

Because senior dogs can't regulate their body temperature as well as young dogs, senior dogs should be kept warm, dry, and indoors when not outside for exercise. Senior dogs are also more sensitive to heat and humidity, so they should be protected from conditions that could cause heatstroke.

Arthritic dogs may appreciate ramps instead of stairs, extra blankets on their beds, and an orthopedic bed.

If your dog is losing his or her sight or hearing, remove obstacles and reduce your dog's anxiety by keeping floors free of clutter.

Regular toothbrushing (only with dog toothpaste) will help reduce plaque that can cause problems, but many senior dogs require professional cleanings under general anesthesia.

CHOCOLATE TOXICOSIS

Toxicosis is disease due to poisoning.

Chocolate toxicosis is a common problem in dogs, but less common in cats.

Depending on how much chocolate is ingested, the signs can range from a simple stomach upset to life-threatening problems.

The toxic ingredients in chocolate include caffeine and a chemical called theobromine.

Dark chocolate and baking chocolate are more toxic than white chocolate, but all of these should be withheld from pets.

Cacao bean mulch used in gardens can cause chocolate toxicosis if a large enough amount is eaten.

What Is Chocolate Toxicosis?

Toxicosis is disease due to poisoning. Chocolate contains two ingredients that can be toxic to pets—caffeine, and a chemical called theobromine. While dogs and cats are both very sensitive to the effects of caffeine and theobromine, cats are usually not attracted to chocolate, so chocolate toxicosis tends to be less common in cats.

The amount of caffeine and theobromine in chocolate varies with the type of chocolate. The general rule is the more bitter the chocolate, the more caffeine and theobromine it is likely to contain. For example, unsweetened baking chocolate contains almost seven times more theobromine than does milk chocolate. White chocolate is also potentially toxic but contains less caffeine and theobromine than milk chocolate does.

Cacao bean mulch contains enough theobromine to be toxic if a dog or cat eats large enough amounts of it. Other products that contain caffeine include coffee, tea, and cola soft drinks. These should be withheld from pets as well.

Signs of Chocolate Toxicosis

Clinical signs of chocolate toxicosis can begin to occur within an hour of ingestion. Caffeine and theobromine are both stimulants of the brain and heart, so the clinical signs can include hyperactivity, increased heart rate, muscle tremors, and potentially death. Other clinical signs include the following:

- Vomiting
- Diarrhea
- Chocolate smell on breath
- Lethargy (weakness/tiredness)
- Panting
- Anxiousness, restlessness, and pacing
- Seizures
- Complications associated with chocolate toxicosis can lead to death within 24 hours of ingestion.

Diagnosis

Caffeine and theobromine can be detected in the stomach contents and blood of animals that have eaten chocolate, but diagnosis of chocolate toxicosis is usually based on evidence that the pet has eaten chocolate. Owners may find candy wrappers, an empty baked goods tray, or other evidence that the pet has eaten something.

If chocolate ingestion is suspected, call your veterinarian immediately! Based on your pet's weight and an estimate of the amount of chocolate eaten, your veterinarian may be able to calculate the amount of caffeine and theobromine that was ingested and determine if your pet is at risk for a toxic reaction. For example, if a large dog eats a few small pieces of milk chocolate, the amount ingested may not be enough to cause a problem. However, if a small dog eats one or two squares of bittersweet baking chocolate, this could be an emergency. Don't forget that chocolate can have other dangerous components. For example, macadamia nuts and raisins are also toxic to animals, so be sure to tell your veterinarian if the chocolate that your pet ate contained any other components.

Treatment

As soon as you discover that your pet has eaten chocolate, contact your veterinarian immediately. If your pet ingested enough chocolate to be dangerous, immediate treatment will be recommended. If the ingestion is detected early enough, your veterinarian may be able to induce vomiting to clear the chocolate from the stomach before it gets absorbed. Further care, including hospitalization for cardiovascular monitoring, may still be recommended. If ingestion occurred more than a few minutes ago, it may be too late to induce vomiting. Your veterinarian may administer activated charcoal to your pet. This is a liquid that is given by mouth and limits absorption of anything in the stomach and upper intestines. Your veterinarian may also recommend hospitalization for administration of intravenous fluids (to help remove the chemicals from your pet's system) and for monitoring. Because caffeine can be reabsorbed by the bladder wall, keeping your pet's bladder empty can also help speed up recovery time. This is managed by frequent walking or by placing a urinary catheter.

Prevention

Dogs have a tremendous sense of smell and tend to be very curious about their surroundings. If there is chocolate in your home, there's a good chance that your dog will find it and eat it. This means that leaving candy on a countertop or on a coffee table puts your pets at risk. Dogs will eat the entire contents of a "trick or treat" bag or an Easter basket if they have a chance. They will even knock trays of brownies or cookies off the stove and eat them. Make sure to keep all tempting chocolate treats away from your pets.

Other foods that can be dangerous to pets include raisins (which can cause kidney damage), macadamia nuts (which can cause muscle tremors and shaking), xylitol artificial sweeteners (which can cause low blood sugar, seizures, and liver failure), onions (which can cause anemia), and uncooked bread dough (which can expand in the stomach and require surgical removal).

CHRONIC KIDNEY DISEASE

Kidney disease is a very general term used to describe several conditions that can affect the kidneys or damage kidney cells. Some types of kidney disease are reversible. Chronic kidney disease is a progressive disease that is not curable.

Clinical signs associated with chronic kidney disease include increased drinking and urination, weight loss, and appetite loss.

Pets can sometimes experience a good quality of life for many years after being diagnosed with chronic kidney disease. Your veterinarian will evaluate your pet and discuss the best methods of disease management with you.

What Is Kidney Disease?

Kidney disease is a very general term used to describe several conditions that can affect the kidneys or damage kidney cells. If kidney disease progresses, it can eventually lead to kidney failure and death. Here are just a few medical conditions that can be associated with kidney disease:

- Nephritis: infection of the kidneys, including the spread of systemic diseases (e.g., leptospirosis, Lyme disease) that can cause kidney damage
- Nephrotoxicosis: damage to kidney cells associated with a drug or poison (such as antifreeze)

- Polycystic kidney disease: a genetic condition in which kidney cells become cysts, losing their ability to function properly
- Kidney stones
- Heart failure (heart disease can decrease the blood supply to the kidneys, which can damage kidney cells)
- The kidneys are responsible for several important functions in the body, including the following:
 - Eliminating waste products through the urine
 - Producing a hormone involved in the production of red blood cells
 - Helping to maintain the body's fluid balance/hydration
 - Participating in the breakdown and elimination of many types of drugs
 - Helping regulate levels of important electrolytes such as potassium and sodium
- Kidney disease reduces the kidneys' ability to carry out these functions, resulting in illness and (often) further progression of disease.

How Is Chronic Kidney Disease Different?

The term kidney disease describes many conditions that can affect the kidneys. Kidney failure describes a condition in which the kidneys cannot effectively eliminate waste products, maintain hydration, and help regulate the balance of electrolytes in the blood. Despite how the term may sound, kidney failure does not mean that the kidneys stop producing urine. In fact, because the kidneys can no longer concentrate urine, increased urine production is often one of the key clinical signs associated with kidney failure. Urine production does not stop completely until kidney failure has progressed to the very end stage, which is fatal.

Kidney failure can be acute (occurring over a period of hours or days) or chronic (occurring over a period of weeks to months or longer). Antifreeze toxicosis is an example of a condition that can cause acute kidney failure. If diagnosed quickly and treated aggressively, acute kidney failure can be reversed in some cases, and the pet can go on to live a normal life.

In contrast, chronic kidney failure, or chronic kidney disease (CKD), is not reversible. CKD can be caused by conditions such as polycystic kidney disease or kidney stones, but in senior pets, it is commonly the result of an age-related decline in kidney function.

CKD tends to be progressive, meaning that it gets worse over time. Although CKD is not reversible, it is often possible to slow the progression of the disease and manage some clinical signs so that your pet is more comfortable.

What Are the Clinical Signs of Chronic Kidney Disease?

The clinical signs of CKD often start off as very mild and increase in severity as the disease progresses:

- Vomiting
- Appetite loss
- Increased drinking and urination
- Dehydration
- Lethargy (tiredness)
- Weight loss
- Constipation

- Decreased grooming
- Drooling (due to nausea or ulcers in the mouth)

How Is Chronic Kidney Disease Diagnosed?

As with many other medical conditions, diagnosis of CKD frequently begins with your veterinarian obtaining a medical history from you. Among other things, your veterinarian may ask about any medications or supplements your pet has received; changes in appetite, drinking, or urination; previous illnesses; or any current signs of illness.

Diagnosis of kidney disease may require a combination of several tests. Your veterinarian may not recommend all of these tests, but the following are some common ones:

CBC and chemistry profile: These tests are commonly performed together as part of a wellness screen or initial blood testing when a pet is ill. These tests provide an overview of many of your pet's organ systems, including the kidneys. The CBC (complete blood cell count) shows the numbers of red blood cells (needed to carry oxygen to all the body's tissues), white blood cells (needed to help fight off infection), and platelets. Because the kidneys are involved in the production of red blood cells, pets with CKD may have low numbers of these cells. The white blood cell count may also be abnormal if infection is present. The chemistry profile measures the levels of several substances that can change if there is a problem with the kidneys, such as CKD.

Urinalysis: Evaluation of a urine sample from your pet can provide critical information about how well the kidneys are working. Urine that is too diluted or that contains material that should not be present can indicate that a pet may have kidney disease.

Radiography (obtaining x-rays): X-rays of your pet's abdomen may show kidney stones or abnormally shaped or sized kidneys.

Sonographic evaluation of the abdomen: Evaluation of the abdomen by ultrasonography is a very useful test for examining the kidneys. The ultrasound machine is connected to a small, handheld probe that is held against your pet's abdomen. The probe sends out painless sound waves that bounce off structures in the abdomen (such as the kidneys) and return to a sensor inside the ultrasound machine. This creates an image on a screen that shows your veterinarian the structure of your pet's internal organs. The ultrasound can also "look inside" organs (like the kidneys) to detect masses, cysts, or other problems that can contribute to CKD.

How Is Chronic Kidney Disease Treated?

CKD is a progressive, irreversible condition. It is not technically "treatable" or "curable," but in many cases, it can be well managed. Effective management generally focuses on slowing the progression of disease and improving quality of life for the patient.

Pets that are severely ill from CKD may need hospitalization and intensive care to become stable enough to continue recovering at home. At home, medications and supplemental fluids can often effectively manage the condition. There are even special diets and dietary supplements that can help some pets with CKD. Periodic blood testing and urine evaluations are often recommended to assess the pet's response to management and determine how

quickly the disease is progressing.

Pets can sometimes experience a good quality of life for many years after being diagnosed with CKD. Your veterinarian will evaluate your pet and discuss the best methods of management with you.

Although CKD is frequently not preventable, regular physical examinations and wellness screening tests can increase the chances of early diagnosis and effective management.

CHRONIC OTITIS

Chronic ear infections may involve bacterial or yeast overgrowth in the external, middle, or inner ear.

Chronic infection can permanently damage the ear canal and cause pain, neurologic signs, and deafness.

Ear infections are usually secondary to an underlying condition that allows for an unhealthy ear environment.

Treatment is based on eliminating the bacteria or yeast with antibiotics or antifungal medication while working to resolve the underlying condition.

Regular ear cleanings and resolution of the underlying condition help to prevent recurrence.

What Is a Chronic Ear Infection?

Ear infections are usually secondary to inflammation of the external ear canals (the tube-shaped part of the ear visible under the ear flap). Inflammation of the canals leads to the reproduction of normal bacteria and yeast that live in the ear to the point where the body is unable to control their numbers (called overgrowth). Other bacteria can also take advantage of the inflammation and unhealthy environment inside the ear to establish infection. The overgrowth of these organisms causes more inflammation. Inflammation of the ear canal causes swelling, making the tube narrower than usual. Inflammation also causes an increase in the production of wax. The ears become very itchy and painful. Severe ear infections can lead to eardrum rupture and middle and inner ear infections. Deep infections can lead to deafness and neurologic signs. Certain disorders or diseases may be the primary reason ear infections develop. These conditions include:

- Allergies (environmental and food)
- Ear mites
- Foreign bodies
- Skin disorders (like seborrhea)
- Thyroid disease (in dogs)
- Tumors or polyps in the ear
-

Ear infections may recur because of the inability to control the original infection or treat the underlying cause. Chronic changes lead to future infections, and scar tissue and permanent narrowing of the ear canals can make future infections difficult to treat.

What Are the Signs of an Ear Infection?

An external ear infection first shows signs of local inflammation (redness, discharge). Pets may shake their heads, scratch their ears, or rub their ears against furniture or the floor. Some pets with severe infections may cry or groan as they rub and scratch their ears. Some pets scratch so severely that their nails create wounds on the skin around their face, neck, and ears.

External ear infections may progress to involve the middle and inner ear, leading to more serious signs of disease:

External ear infection (otitis externa)

- o Itchy or painful ears
- o Head shaking
- o Discharge and odor from the ears
- o Narrowing or even closing of the canals

Middle ear infection (otitis media)

- o Paralysis of the nerves in the face
- o Dry eye
- o Hearing loss
- o Abnormal pupil size

Inner ear infection (otitis interna)

- o Inability to keep balance, stand, or walk
- o Nausea
- o Head tilt

How Is an Ear Infection Diagnosed and Treated?

During a physical examination, your veterinarian will look in the ear for the presence of inflammation, redness, discharge, growths, or other findings that may indicate an ear infection. Sometimes, a cotton swab is used to collect debris from the ear. This material can be placed on a slide and examined under a microscope to determine if the infection is due to yeast, bacteria, or mites. Your veterinarian may also collect a sample of ear debris for culture and sensitivity testing, which identifies the exact organisms present and helps your veterinarian select the best antibiotic to use.

In severe cases, or if the animal is in too much pain to permit an examination of the ears, sedation may be needed to evaluate the ears, collect samples of discharge, clean the ears, and initiate treatment. With the pet sedated, the ears can be gently flushed to remove debris and facilitate better examination of the ear. Radiographs (x-rays) and other diagnostic tests can be performed while the pet is sedated to determine if the middle or inner ear are also involved. Once the infection has been identified, most animals with chronic ear infections can be treated at home. Ear mites are relatively easy to treat with medication placed directly into the ear or applied topically between the shoulder blades. Most yeast and bacterial infections can be treated with regular cleanings and topical or oral medication. When inflammation is severe, a steroid may be needed to give comfort to your pet and decrease the swelling around the ear canals.

If there are underlying problems such as thyroid disease or seborrhea, these must also be addressed to clear the infection and reduce the chances of recurrence.

If the ear canals have been permanently narrowed or damage is otherwise severe, surgery may be recommended to allow for drainage and application of medication. In other cases, more extensive surgery may be recommended to prevent the pet from being in chronic pain due to a permanently deformed, infected ear.

How Can Ear Infections Be Prevented?

Once an infection has been cleared, maintaining a healthy ear environment with regular cleaning helps prevent recurrence. Unfortunately, regular cleaning isn't always enough.

Underlying diseases such as allergies and skin disorders must be identified and resolved in order to help avoid future infections.

DENTAL CARE

Without routine dental care, most dogs and cats develop periodontal (dental) disease by 3 years of age.

Periodontal disease is the most common health problem in dogs and cats.

Bad breath may be a sign of periodontal disease in your pet.

Providing routine dental care for your pet can be easy and can benefit your pet's oral and overall health.

What You Need to Know

Bad breath in pets may be a sign of periodontal disease that could lead to other health problems. Periodontal disease starts when plaque (a bacterial film) coats the tooth. Plaque hardens (calcifies) into tartar, a thick yellow or brown layer on the teeth. Tartar can irritate the gums, creating an environment where bacteria thrive. As the disease progresses, the gums become tender, red, and swollen and the bacteria continue to multiply. Eventually, the inflamed gums pull away from the teeth, creating pockets that trap more bacteria and food particles. The gums bleed, the roots of the teeth may become exposed, teeth may become loose, and your pet may feel pain when eating. If the bacteria enter the bloodstream, they can create problems for organs such as the heart, lungs, liver, and kidneys.

Signs of Dental Problems:

- Bad breath
- Sensitivity around the mouth
- Loss of appetite
- Yellow or brown deposits on the teeth
- Bleeding, inflamed, and withdrawn gums
- Loose or missing teeth
- Pawing at the mouth or face
- Difficulty chewing

What to Do

Your pet needs routine dental care from your veterinarian and you. Annual veterinary checkups are essential for helping your veterinarian monitor your pet's dental health, but don't wait for a checkup if you suspect a problem. After an examination, your veterinarian may recommend a dental prophylaxis (tooth cleaning) for your pet. Anesthesia and pain medication are used for dental procedures. If dental disease is severe, your veterinarian will recommend the best treatment, which may include tooth extraction.

Pets are never too young to start having their teeth brushed at home; in fact, the younger they are, the better. Slowly and gently introduce your pet to toothbrushing. It should be a bonding experience that is reinforced with praise and rewards. Begin by rubbing your pet's teeth and gums with soft gauze wrapped around your finger. Gradually switch to using a specially designed pet toothbrush or baby toothbrush with pet toothpaste (do not use toothpaste for people because it can upset your pet's stomach). If your pet is most at ease on your lap, keep his or her toothbrush next to the chair where you sit together. Focus on your pet's gum line, and

work up to 30 seconds of brushing for each side of the mouth at least a few times a week. If your pet won't tolerate brushing, your veterinarian can recommend plaque-preventive products for your pet.

There's no substitute for regular brushing, but feeding dry food can help keep your pet's teeth and gums in good condition. In addition, special plaque-reducing foods, treats, and toys can help. The Seal of Acceptance from the Veterinary Oral Health Council appears on products that meet defined standards for plaque and tartar control in dogs and cats. Ask your veterinarian for recommendations.

Caring for your pet's teeth can have several benefits. For example, a few minutes of brushing each week can help give your pet a longer, healthier life.

Ways to Prevent Periodontal Disease in Your Pet

- Take your pet to annual veterinary checkups
- Brush your pet's teeth or use plaque-reducing products at least a few times a week
- Feed dry food
- Provide plaque-reducing foods, treats, and toys

DIARRHEA

Diarrhea is feces that is looser or more watery than normal.

Pets with diarrhea may defecate more frequently than usual, have accidents in the house, and may have blood, mucus, or parasites in their feces.

Puppies and kittens with diarrhea, as well as pets showing signs of vomiting and lethargy (tiredness), should be seen by a veterinarian immediately.

There are numerous causes for diarrhea, including eating garbage or foreign material, a sudden change in diet, viruses, and bacterial overgrowth.

Diagnostic tests may include fecal tests, blood work, abdominal radiographs (x-rays), abdominal ultrasound, and endoscopy with biopsy (tissue sample).

Treatment varies with the cause but usually includes special diets and/or medications.

What Is Diarrhea?

A pet with diarrhea has looser or more watery feces than normal and sometimes more frequent stools as well.

Many cases of diarrhea may resolve in a day or two without treatment. Pets that experience diarrhea for more than a few days, or show more severe signs, such as vomiting, loss of appetite, or lethargy (tiredness), should be seen by a veterinarian immediately. Puppies and kittens with diarrhea are especially susceptible to dehydration and require a veterinary exam.

What Are the Signs of Diarrhea?

In addition to loose or watery stools, pets with diarrhea may show signs such as:

- Mucus or blood in the stools
- Worms in the stools
- Accidents in the house
- Defecating with increased frequency
- Straining to defecate
- Other signs that may indicate a more serious problem:
- Nausea or vomiting
- Loss of appetite

- Lethargy (tiredness) or weakness
- Abdominal pain
- Weight loss

What Causes Diarrhea?

There are many causes for diarrhea. Most commonly, it occurs when a pet eats something that is not part of his or her normal diet, such as garbage, or when the diet is changed abruptly. When changing from one kind of pet food to another, it's best to make a slow transition over a week, gradually mixing in more of the new food and less of the old food. This transition allows the pet's digestive system to adjust and decreases the likelihood of diarrhea.

Other potential causes of diarrhea include:

- Bacterial overgrowth in the digestive tract
- Viruses
- Parasites
- Ingestion of foreign objects, such as toys, bones, and fabric
- Food allergies
- Inflammatory bowel disease
- Antibiotics and other drugs
- Toxins
- Pancreatitis
- Diseases in other organs (such as liver disease)
- Cancer

How Is Diarrhea Diagnosed?

Diagnosis may depend on the severity of the pet's clinical signs and the length of time the pet has experienced the problem. Diagnostic tests may include:

- Fecal tests for internal parasites, bacterial overgrowth, and viral infections, such as canine parvovirus
- General blood tests to check for systemic diseases (diseases that affect the whole body)
- Specific blood tests, such as thyroid panels, pancreatic tests, or feline leukemia virus tests
- Abdominal radiographs (x-rays) to visualize possible obstructions and foreign bodies
- Abdominal ultrasound
- Endoscopy and biopsy (tissue sample) for chronic diarrhea cases

What Are the Treatment and Outcome for Diarrhea?

Treatment varies depending on the cause. In mild cases, your veterinarian may recommend a bland diet (a diet that will be easy for your pet's body to digest). If there is bacterial overgrowth, your pet may need probiotics or oral antibiotics to restore the normal balance of bacteria in the digestive tract. Medications to firm the stool or treat parasites may be necessary. Diarrhea caused by ingestion of foreign objects may require surgery.

More chronic cases of diarrhea are often treated with special diets and medications. In some cases, the cause may not be completely cured and may need to be managed throughout the pet's life.

EAR CLEANING

Ear cleaning can help treat or prevent ear problems.

Follow your veterinarian's recommendations closely.

Always put health and safety first. If the procedure seems dangerous to you or very painful for your pet, stop and consult your veterinarian.

The Basics

Ear cleaning can help treat or prevent ear problems. Some pets are prone to ear problems and may need regular ear cleanings between veterinary visits. Ear cleaning can help remove dirt and wax that can prevent medications from reaching inflamed areas. It can also get rid of allergens and microbes that may contribute to inflammation or infection.

Ear cleaning can be relatively easy, as long as you follow a few simple guidelines. The most important guideline is to always put health and safety first. If, for any reason, your pet becomes so agitated that you feel you are at risk of being bitten or scratched, stop. If the procedure seems excessively painful for your pet, stop and get your veterinarian's advice.

Follow Recommendations

The ear is a very delicate structure. It is very important to closely follow your veterinarian's recommendations regarding ear cleanings. Treating too frequently or too aggressively can make the problem worse, not better. Sensitive, already inflamed parts of the ear can be damaged. Because some ear washes contain chemicals and drying agents, it is important to use only products recommended by a veterinarian.

What You Need

- Old clothes
- Safe, easy-to-clean work area (e.g., tile or linoleum floor, water-resistant walls)
- Towel
- Nonirritating ear wash or rinse recommended by your veterinarian
- Cotton balls or tissues

Technique

There are several techniques for home ear cleaning. The simplest one is described here.

- Choose a space that's easy to clean (e.g., bathroom, laundry room, shower stall), or take your pet outside. Ear cleaning can be messy.
- Wear old clothes and keep a towel handy.
- If necessary, gently restrain your pet (see Restraining Your Pet, below). You may need a helper.
- Hold the ear solution bottle just over the opening of the affected ear and gently squeeze the prescribed amount of solution into the ear. Do not squeeze the bottle too hard, as a powerful stream can irritate tender, inflamed ear structures. Note: If an ear medication requires refrigeration, do not store it at room temperature; however, allow it to reach room temperature before use to make it more comfortable for your pet.
- Fold the earflap down against your pet's head and try to prevent your pet from shaking his or her head too much. Gently massage the very base of the ear to distribute the solution as far as possible into the ear canal. Ask your veterinarian to demonstrate this massage.
- Keep the solution in the ear for the prescribed amount of time.
- Allow your pet to shake his or her head to remove some of the solution. (This is the messy part.)
- Use cotton balls or tissues to gently wipe away any discharge, loosened debris, and remaining liquid from the earflap, side of the neck, hair below the ear, and opening of the ear canal.

Cotton swabs should not be used because a sudden shake of the head or slip of the hand could result in a cotton swab puncturing the delicate eardrum or pushing debris inside the inner ear canal.

Signs of Ear Trouble

- Odor
- Scratching/rubbing at ears or side of head
- Discharge
- Debris
- Shaking/tilting of the head
- Pain
- Head shyness (not wanting the head or ears to be touched)
- Irritability

Restraining Your Pet

Although some pets are willing to sit or lie quietly while you clean their ears, most object, at least at first. Here are some tips on how to keep your pet from wiggling while you work: Place your pet on a stable work surface that you can stand next to, and allow him or her to lie down, either in an upright “sphinx” position or flat on his or her side. While standing next to your pet, put the arm you will use to treat the ear over your pet’s shoulders, and use your upper arm and elbow to press your pet against your torso to help keep him or her still. You can wrap your other arm under or over your pet’s neck to hold the ear open and earflap back. If necessary, move to your pet’s other side or turn your pet around to treat the other ear.

If you don’t have a high work surface, you can use the same method while seated on the floor, either holding the front of your pet’s body partially against your body or on your lap. If you have a large dog, you can stand behind him or her and have him or her sit back against your legs. Sometimes it helps to back the pet into a corner.

Small dogs and cats can be wrapped in a large towel and held against your body, leaving only the head free. Be sure not to wrap your small pet too tightly.

If your pet struggles, talk to him or her calmly. Stop if he or she becomes extremely agitated. Massaging the base of the ears (unless they are painful) should feel good to the pet and may help calm him or her enough that you can resume treatment. Be sure to reward good behavior.

EAR INFECTIONS AND YOUR PET

Any pet can develop an ear infection, regardless of ear shape, exposure to water (swimming), or the amount of hair inside the ear canal.

Underlying allergies or other illnesses can cause ear infections to develop.

Diagnosis is based on physical examination findings, but diagnostic testing may be recommended to investigate underlying factors contributing to the infection.

Treatment usually involves applying medication into the ears, but identifying and treating underlying causes helps ensure treatment success and reduces the likelihood of reinfection.

What Is an Ear Infection?

Ear infections generally begin as inflammation of the skin inside the outer ear canal. Once the inflammation is present, discharge, redness, and other characteristics of an ear infection become established.

Any pet can develop an ear infection regardless of ear shape, exposure to water (swimming), or the amount of hair inside the ear canal. Allergies and other systemic illnesses (illnesses that affect the entire body) are commonly involved in establishing ear infections and keeping them going.

The medical term for an ear infection is otitis. Ear infections tend to begin in the outer ear canal, but they can progress to involve the middle ear canal and inner ear.

What Causes Ear Infections?

Ear infections in dogs and cats are most often the result of an underlying problem. Conditions that can lead to development of an ear infection include the following:

- Allergies (food or inhalant allergy)
- Ear mites
- Polyps or other growths in the ear canal
- Systemic illnesses such as thyroid disease and adrenal gland disease (in dogs)
- Foreign bodies in the ears, including dirt, sand, or plant material

Ear infections begin with inflammation of the tissue inside the ear canal. Once the inflammation is established, bacteria and yeast take advantage of this environment to infect the ear. This means that when your veterinarian is trying to diagnose and treat an ear infection, the underlying cause must be considered, along with the ear infection itself and any other bacterial or yeast infections that may be complicating the condition.

What Are the Clinical Signs of an Ear Infection?

Ear infections are painful. Some pets may even try to bite someone who attempts to touch their ears or head. The clinical signs of otitis depend on the severity of the inflammation but may include the following:

- Shaking the head or rubbing the head and ears on the floor or on furniture
- Scratching the ears
- Discharge from the ears, which can sometimes have a very bad odor
- Redness of the ear canal and ear flap; the ears may also feel warm when touched

Some pets with severe otitis may cry or groan as they rub and scratch their ears. Some pets scratch so severely that their nails create wounds on the skin around their face, neck, and ears. If the otitis is severe or chronic, the outer ear canal can begin to thicken and become deformed. This thickening can make the ear opening very narrow, so cleaning the ears becomes more difficult. Ulcerations on the inside of the ear canal can also result from infection and trauma. Chronic or severe ear infections that begin in the outer ear canal can damage the ear drum, causing hearing loss. Additionally, progression of the infection into the middle and inner ear can be associated with more severe clinical signs, including development of a head tilt, incoordination, inability to stand or walk, and increased pain.

How Is an Ear Infection Diagnosed?

A medical history and physical examination findings can provide valuable information for your veterinarian when trying to diagnose an ear infection. The medical history may include trying to

determine how long the ear infection has been going on, whether it has occurred before, and whether any other signs of illness have been observed. Physical examination findings may reveal evidence of underlying illness, such as thyroid disease (in dogs).

Diagnosis of otitis is usually based on physical examination findings; redness, inflammation, discharge, and other changes within the ear can indicate an ear infection. Determining the cause of the infection generally requires diagnostic testing. For example, ear mites can be diagnosed by examining a small amount of ear debris under a microscope. If your veterinarian suspects a bacterial or yeast infection, he or she may recommend culture and sensitivity testing of the debris inside your pet's ear. To perform this test, your veterinarian places a small, sterile swab into the outer area of your pet's ear canal to collect some of the debris. This material is submitted to a diagnostic laboratory, which can analyze it to determine exactly which bacteria or yeast are present. This information helps your veterinarian determine the best medications to treat the infection. If an underlying illness such as thyroid disease, adrenal gland disease, or allergy is suspected, blood testing or other diagnostic tests may be recommended.

Your veterinarian will also likely clean your pet's ears to remove as much debris as possible before treatment begins.

How Is an Ear Infection Treated?

Your veterinarian will likely prescribe medication (usually ointment or drops) that can be placed directly into your pet's ear to treat the ear infection. If a secondary bacterial or yeast infection is present, oral antibiotics or antifungal medication may also be recommended. In some cases, your veterinarian may recommend oral or topical steroids to help reduce swelling and inflammation and make your pet more comfortable with having his or her ears handled. Of course, identifying and treating the underlying cause of the infection is critical to ensuring treatment success and reducing the chances of reinfection.

Thyroid disease and adrenal gland disease can generally be managed with medication, but therapy is long-term, frequently for the life of the pet. Similarly, pets that develop ear infections as a result of allergies may need to remain on a hypoallergenic diet or receive long-term treatment for inhalant allergies. In contrast, ear mite infestations resolve relatively quickly with treatment and only tend to come back if the pet is exposed to ear mites again.

In many cases, the ears may start looking better after only a few applications of medication. However, it is advised to give all medications as directed for the full course of treatment. Your veterinarian may recommend recheck exams during the course of treatment to monitor how well the condition is responding to therapy. Notify your veterinarian right away if your pet's ears begin to look worse, if the problem seems to return after treatment is completed, or if other signs of illness are observed.

Regular ear cleaning is an important part of treating otitis. If you are uncomfortable cleaning your pet's ears, ask your veterinary team to review ear cleaning procedures with you. In some severe or chronic cases, surgery may be recommended to stop otitis from happening again.

EXAMINATION AND RABIES VACCINE

Regular examinations are essential to maintaining your pet's health.

A thorough physical examination checks every major body system.

Periodic vaccine risk assessments help ensure that your pet is properly immunized against infectious diseases.

Rabies is a deadly disease that is generally fatal in all species. Vaccination against rabies is required by law in most states.

Why Are Annual Examinations Important?

Regular physical examinations are essential to maintaining your pet's health. A thorough examination checks every major body organ and system.

Eyes—The eyes will be checked for redness, cloudiness, or discharge.

Ears—Many pets suffer from ear infections. Your veterinarian will examine your pet's ear canals for possible signs of an ear problem: debris, waxy buildup, or trauma caused by scratching.

Mouth—Your veterinarian will look in your pet's mouth for signs of dental disease and for broken or missing teeth. If he or she sees any problems, your veterinarian may recommend a thorough dental examination and cleaning for your pet.

Respiratory system—Your veterinarian will listen to your pet's heart and lungs.

Digestive system—Your veterinarian will "palpate" (feel) your pet's abdomen for signs of discomfort and to check that the major organs are the right size and shape.

Musculoskeletal system—Your veterinarian will palpate all your pet's major muscles and bones to check for signs of weakness or pain.

Skin and haircoat—Your veterinarian will check of all your pet's "lumps and bumps." If anything suspicious is found, a biopsy or lump removal may be recommended.

Laboratory tests—During a routine examination, your veterinarian may also want to take samples of your pet's blood, urine, and feces to obtain additional information about your pet's health or to ensure that specific body systems are functioning properly.

During your pet's examination, your veterinarian will also ask you many questions about your pet's behavior, lifestyle, and health history since your last visit. The answers to these questions will help your veterinarian determine what preventive care recommendations he or she should make in order to help keep your pet healthy. Based on your pet's age, lifestyle, and disease risk, your veterinarian will recommend vaccinations for your pet. In virtually every state, vaccination against rabies is required by law.

What Is Rabies?

Rabies is a deadly disease caused by a virus that attacks the central nervous system. All warm-blooded animals, including wild animals, dogs, cats, and humans, can get rabies. Once clinical signs appear, rabies is generally fatal. However, the disease is also generally preventable through vaccination.

Rabies remains prevalent in wildlife populations—primarily raccoons, bats, foxes, and skunks. Pets are at risk of contracting the disease from wild animals and potentially transmitting it to humans.

The virus can have an incubation period lasting from days to months. Rabies is usually transmitted through contact with the saliva of an infected animal; most pets and people become infected through a bite wound. An animal's saliva becomes infective once the virus has traveled through the animal's nervous system from the initial bite site to reach the brain and, ultimately,

the salivary glands. Once the virus enters the salivary glands, the animal can pass the infection to other animals or humans through its saliva. Animals with rabies are referred to as rabid.

Prevention

Because of the potentially serious human health implications, rabies vaccination of dogs is required by law in virtually all states, and many states also require cats to be vaccinated. Vaccination is the most effective way to prevent the disease in animals and, in doing so, to safeguard human health. Today's rabies vaccines are very safe and effective.

Other forms of rabies prevention include:

- Keeping your pet away from wildlife.
- Ensuring that all other dogs or cats your pet comes in contact with are vaccinated.
- Minimizing contact with stray animals. Do not feed stray animals with unknown vaccination status or allow them to remain near your home and pets.
- Vaccination helps protect your pet from unnecessary euthanasia or extended quarantine if he or she has contact with a rabid animal. Any pet that bites a person and has an unknown or out-of-date vaccination status may be subject to quarantine or euthanasia, depending on state laws.

FEEDING YOUR NEW PUPPY

Veterinarians are your best source of information for making informed choices about which brand of food or treats to feed your puppy.

Commercially produced puppy foods must meet AAFCO (Association of American Feed Control Officials) nutritional standards.

There are a number of commercial diets specifically for dog breeds of different sizes. To ensure that your puppy has a healthy adulthood, seek professional advice, educate yourself about good puppy nutrition, and carefully monitor your puppy's growth rate, activity level, and body condition.

When deciding what to feed your new puppy, make sure you get reliable, professional veterinary advice on:

- What type of diet to choose
- How much food to feed
- How to adjust your puppy's diet as he or she grows into adulthood

Veterinarians are your best source of information to help you make more informed choices about which brand of food to feed or what kinds of rewarding treats to give your puppy for good behavior.

Eating Right—Nutrition Basics

Puppies should eat a diet that contains protein, fats, carbohydrates, vitamins, minerals, and water in the proper proportions. Commercially produced puppy foods must meet AAFCO (Association of American Feed Control Officials) nutritional standards. Pet foods that meet AAFCO standards are marked with the phrase "complete and balanced" and, in the case of puppy foods, should be formulated for growth. Any diets that meet these guidelines won't

require any additional supplementation—the diet will include all necessary vitamins and minerals. Don't forget to also make sure your puppy has a continuous supply of fresh, clean water!

There are many commercial puppy foods on the market. Ask a veterinary professional for advice on what products offer the right nutritional mix for your pet.

How Much and When?

Typically, tiny puppies—those under 12 weeks of age—should eat three to four times a day. Once a puppy is 3 months old, he or she can generally make the switch to eating two to three times a day. The frequency of feedings, however, will depend on the puppy's breed, size, and individual needs. This frequency should continue until the puppy has reached adulthood. Growing puppies require significantly more food for their size than adult dogs. The feeding guidelines listed on your pet food bag are a good place to start, but you should monitor how well those amounts seem to be meeting your puppy's needs. A puppy that is leaving food in the bowl at mealtimes or becoming too pudgy may be eating too much; a puppy that seems lethargic or excessively thin may not be getting enough.

It's also important to set a regular schedule for feeding your puppy. A good schedule helps prevent stomach upsets and supports housetraining your puppy.

Large Breed vs. Small Breed

Picture a huge Great Dane puppy standing next to a tiny Chihuahua puppy. They're both dogs—and members of the exact same species—but their nutritional needs during puppyhood and young adulthood are completely different.

Small-breed dogs mature faster, typically have faster metabolisms, and have tiny mouths and teeth. They often need puppy diets that are easy for them to eat and chew and are more “energy dense” to help keep up activity levels and encourage proper growth and development. In addition, small, toy, or teacup breeds may need to eat more often.

Large-breed dogs, on the other hand, often mature at a slower rate and are prone to developing joint (e.g., elbow and hip) problems if they eat too much and grow too rapidly. Excess body weight can also stress developing bones. For these reasons, it is vitally important not to overfeed large-breed puppies.

Thankfully, there are a number of commercial diets specifically for dog breeds of different sizes. Diets designed for large-breed puppies, for example, are typically less energy dense and, therefore, are less likely to be overfed. Ask a veterinary professional for advice if your puppy belongs to a particularly large or small breed.

Feed by the Puppy, Not by the Package

The key point to remember is that every puppy is different, and no single diet will work best for all of them. To ensure that your puppy has a healthy adulthood, seek professional advice, educate yourself about good puppy nutrition, and carefully monitor your puppy's growth rate, activity level, and body condition.

Body Condition

When you visit your veterinarian, he or she can weigh and examine your puppy to help you determine if things are “on track.” In between those appointments, which become less frequent as your puppy ages, you should be able to monitor your puppy’s progress on your own. Many veterinarians and nutritionists use a body condition score to determine whether an animal is overweight or underweight. These scores usually rank a pet on a five- or nine-point scale. In general, your dog should score a 4 on a nine-point scale or a 3 on a five-point scale throughout his or her life.

One of the most important aspects of caring for your dog’s health is to maintain your dog at a proper weight. Studies have demonstrated that dogs maintained at the proper weight will live up to 2 years longer than overweight or obese dogs. Therefore, it’s best for all dogs—puppies and adults—to be a little on the lean side. That doesn’t mean your dog should be abnormally skinny. It means you should be able to feel—but not see—ribs when you run your hands down your dog’s sides. Your dog should also have a definite “waist” when viewed from above.

If you have any concerns about your puppy’s growth rate, condition, or eating habits, schedule a weight check.

Read the Label

Under federal Food and Drug Administration (FDA) regulations, every puppy food must include a label listing its ingredients and a guaranteed analysis of how much protein, fat, and other important nutrients are in it. Reading the percentages can get complicated, so one of the best quick ways to assess the quality of a diet is to look at the ingredient list. By law, the pet food manufacturer must list the ingredients by weight. For more information on reading pet food labels, visit www.fda.gov/AnimalVeterinary/ResourcesforYou and click on “Pet Food Labels—General” under “Information for Consumers Fliers.”

FIRST AID AND YOUR PET

One: Remain calm and try to keep your pet calm. Approach your pet with caution. An animal in pain may bite or scratch.

Two: If some sort of stabilization is possible (for example, direct pressure to slow down bleeding), try it—ideally while on the way to the veterinarian. If this is not possible, just get to the veterinarian as quickly as possible.

Three: Even if your pet seems all right after an injury, take him or her to the veterinarian. Injuries involving an eye, the head, a large wound, breathing difficulty, sudden or severe swelling, pain, significant blood loss, or trauma (such as a car accident) should be seen immediately.

Dealing with an injured pet can be scary and frustrating. In many cases, you don’t know how bad the injury is, and your pet may not be acting normally. If your pet is injured, the first thing you need to do is try to remain calm. If possible, try to determine how severe the injury is, but remember that caution is extremely important when approaching an injured animal. Any pet, no matter how calm or friendly he or she may usually be, can bite or scratch when in pain.

While all injuries should be seen by your veterinarian as soon as possible, injuries involving an eye, the head, a large wound, difficulty breathing, sudden or severe swelling, pain, significant blood loss, or trauma (such as a car accident) should be seen immediately. Even if your pet appears to be normal after an accident, it’s possible for him or her to have internal injuries that you can’t see, so it’s important to go to your veterinarian as soon as possible.

What to Do Before Transporting Your Pet

In some cases, it's obvious that your pet needs immediate transportation to your veterinarian for treatment. To reduce the risk of greater injury, however, you first need to stabilize your pet for transport.

If you think your dog may snap or try to bite because of pain, make a makeshift muzzle by wrapping something around the snout to hold the mouth closed. Be sure not to obstruct the nostrils! A necktie, stocking, belt, or long sock may work well. Wrap the muzzle, but don't tie a knot—you may need to get it off in a hurry. If your pet is panting heavily or having problems breathing, don't try to muzzle. Cats should not be muzzled.

If your pet is unable to move, you should handle him or her as little as possible to avoid further injury. Gently slide the pet onto a flat board, such as a piece of plywood covered with a blanket, and loosely strap him or her in place with tape or rope for transportation. For less serious injuries, try to scoop the pet up into a large blanket or towel and head for the car. If your cat becomes aggressive, use a towel or blanket (and thick leather gloves, if possible) to scoop him or her into a box or other sturdy container that restricts movement but has plenty of airflow.

Bleeding

If there is no apparent bleeding, take your pet to the veterinarian immediately. If there is quite a bit of bleeding, apply direct pressure to the wound. Sterile gauze is the best option, but a clean cotton T-shirt will also work.

Hold the material firmly in place until the blood clots. If the bleeding is on a limb or paw and it does not slow down after direct pressure, make a makeshift tourniquet and tie it between the wound and the heart. A tourniquet is simply something that wraps or ties around an area. It should be snug enough to compress the vessels and slow down blood flow, but not so tight that it is painful or can damage muscles or nerves in the area. You can use some of the same things you might use for a makeshift muzzle—a stocking, necktie, belt, or long sock will work. Be sure to loosen the tourniquet for 20 seconds every 5 minutes. Only use a tourniquet if absolutely necessary. A misapplied tourniquet can result in permanent disability or even the need for amputation. Never apply a tourniquet to your pet's neck or tail.

Signs of internal bleeding aren't always obvious, but they can include blood running from the nose, mouth, or rectum; coughing blood; blood in the urine; pale gums; or a rapid or weak pulse. In this case, minimize handling to prevent further damage, and keep your pet as warm, still, and quiet as possible on the way to the veterinary clinic.

Fractures

Without radiographs (x-rays), it may not be possible to tell if your pet has a fracture (a broken bone). If a limb is hanging or dangling, a fracture is likely. If your pet has a fracture, rest him or her on a flat, transportable surface, such as a piece of wood or tarpaulin, padded with blankets. You should not try to set a fracture. If you don't know exactly where the break is (and how bad), you can make things worse. If a leg is clearly broken and the fracture is below the knee or wrist, you can try to wrap the area, first with cotton padding, then with something long and flexible, such as a magazine. This makeshift splint should extend one joint above and below the fracture. Secure it with tape and ensure that it is loose enough to maintain blood flow. If the fracture is above the knee or elbow, it will be very difficult to immobilize without making things worse, so just try to position the leg close to the body and get the pet to a veterinarian as quickly as

possible. In most cases, it is best to handle the limb as little as possible and focus instead on getting your pet to the veterinary hospital.

If the injury is to an area that isn't a limb, such as the spine, ribs, or hip, immobilize your pet as much as possible, carrying him or her on the transport that you created until he or she can be examined by your veterinarian.

Any injured animal, no matter how calm or friendly he or she may usually be, can bite or scratch when in pain, so use caution in handling an injured pet.

Burns

If your pet is burned with chemicals, flush the area immediately with large quantities of cool water. For burns from a heat source (fire, stovetop, etc.), gently flush with cool water or gently apply an ice pack wrapped in a soft towel.

Shock

Often, injuries can cause your pet to go into shock. The signs of shock can vary and may include a weak or forceful pulse, shallow or deep breathing, nervousness, and a dazed appearance. If your pet is in shock, keep him or her still, quiet, and warm and get to a veterinarian right away. If your pet is unconscious, keep his or her head level with the rest of the body and watch for signs of vomiting. If vomiting occurs, be prepared to tilt the head slightly below the rest of the body to prevent inhalation of the vomit, then return the head to the level position.

An Ounce of Prevention

To avoid panicking during a pet injury, prepare yourself ahead of time. Assemble a first aid kit that includes essential items like sterile gauze and bandage material, towels, and a thick blanket. In addition, know when your veterinarian's office is open and the location of the nearest emergency clinic that is open after hours. Keep this information, including phone number and address, available where it's easy to find.

FLEA ALLERGY DERMATITIS (FAD)

Flea allergy dermatitis (FAD) is a severe allergic reaction to the bite of a flea.

FAD can cause intense itching and painful skin wounds.

Left untreated, affected animals can develop secondary skin infections.

FAD can be treated by controlling fleas on the pet and removing fleas from the pet's environment.

Corticosteroids and antibiotics may be prescribed to treat itching and secondary skin infections.

What Is Flea Allergy Dermatitis?

Flea allergy dermatitis (FAD) is a severe allergic reaction to a flea bite. Both dogs and cats can develop FAD. Affected pets have an extreme allergic reaction to certain proteins in the flea's saliva, which the flea injects into the pet's skin during biting and feeding. Some pets are so allergic that even a single bite can cause a reaction.

FAD makes pets feel miserable, and if left untreated, the associated severe itching and inflammation can lead to excessive scratching and chewing that can damage the skin. Secondary bacterial or fungal infections can develop as a result.

What Are the Signs of Flea Allergy Dermatitis?

Discomfort and itching are among the first signs of FAD. FAD can be more severe during warm/humid weather, when fleas are more active. However, if a pet's home environment is infested with fleas or the pet lives in a place that is warm year-round, FAD can be a chronic, year-round problem.

Affected animals may scratch, bite, lick, and chew excessively at itchy and inflamed areas. Red, oozing lesions called hot spots may develop in areas where the scratching is most intense—typically on the rump, tail, and legs. Affected dogs typically exhibit thinning of the hair along the rump and the base of the tail. Affected cats can remove large areas of hair and develop scabs that can cover most of their body.

Other signs include:

- Skin inflammation
- Hair loss
- Scabs
- Oozing or crusted sores (hot spots)
- Darkening or thickening of affected skin
- Unpleasant odor (resulting from secondary infection)
- Diagnosis of Flea Allergy Dermatitis

Diagnosis is typically made through examination and on finding evidence of fleas. However, because a single bite can cause a reaction and because many pets, particularly cats, can do an excellent job of grooming fleas off of themselves, evidence of fleas may not be found. Allergy testing can help determine whether the pet has a sensitivity to flea saliva. Because pets that are allergic to fleas are often allergic to other substances, additional allergens may be tested for as well.

Treatment and Prevention

The only truly effective way to treat FAD is to completely prevent flea bites by removing fleas from your pet and its environment. Effective treatment targets adult (biting) fleas, but many products also target the other life stages of fleas (such as eggs and larvae), which can live in the environment and mature into adult fleas.

There are many safe, effective, and easy-to-administer flea-control products. These products are typically administered by applying the medication as a fluid directly to the animal's skin—generally between the shoulder blades or at the back of the neck. Your veterinarian may recommend more than one product to most effectively kill fleas and break the flea life cycle. Once an infestation is established in your home, fleas can be very difficult to eliminate. You may need to treat your pet repeatedly. In addition, fleas must be completely removed from the affected pet's environment. Therefore, all other animals in the house must also be treated with flea-control products, and the house (and possibly the yard) may need to be treated with flea-control products as well.

Vacuuming rugs, throwing out old pet bedding, and laundering other items may also be recommended by your veterinarian to help remove fleas from your pet's environment. Because many species of wildlife carry fleas, it may also be recommended that you secure your home and yard to prevent wildlife from inadvertently re-infesting your pet's living and exercise areas. Secondary skin infections that develop as a result of FAD may be treated with antibiotic or antifungal medications. In addition, your veterinarian may prescribe a short course of corticosteroids to reduce inflammation and itching so that irritated areas may heal. There are more than 2000 species of fleas, but the one that most commonly afflicts dogs and cats is the cat flea (*Ctenocephalides felis*).

FOOD ALLERGY

A food allergy is an immune response to something in the pet's diet that did not cause problems in the past.

Food allergies commonly cause itchiness and/or vomiting and diarrhea in dogs and cats.

Food allergies are diagnosed with an elimination diet trial.

Long-term treatment can be very successful if the offending ingredient is avoided.

What Is a Food Allergy?

Food allergy (also called food hypersensitivity) refers to a type of physical reaction to food. Food reactions are classified into two categories: those that are the result of immune system stimulation and those that are not. Food allergy occurs when the immune system begins to overreact to ingredients that the pet has eaten with no problems in the past. Food intolerance occurs when what is eaten has a direct, negative effect on the stomach and/or intestines, such as spoiled meat, chewed up toys, food additives, and abrupt changes in diet. Food intolerance is not an immune reaction.

The list of known food allergens (substances that pets can be allergic to) is extensive and includes beef, eggs, poultry, dairy, lamb, pork, fish, corn, wheat, soybeans, preservatives, and dyes.

Overall, the immune system's job is to find threats to the body and destroy them by sending signals to activate special cells. An allergy results when this system misjudges a safe substance, and the cells cause damage to the surrounding tissues. This is why animals with food allergies often have vomiting and diarrhea. Food allergies can also cause skin problems because the signals released may act in other parts of the body, too.

Signs of a Food Allergy

- Skin
- Itchiness (all over or even just in a few areas)
- Skin infections
- Ear infections
- Hair loss
- Stomach and intestines
- Vomiting
- Diarrhea
- Abdominal pain
- Weight loss
- Diagnosis and Treatment

Many diseases can cause either gastrointestinal signs or itchiness, so your veterinarian will want to rule them out to diagnose a food allergy. Food allergies tend not to be seasonal, and signs are usually seen year round. The most obvious indicator of food allergy is that the signs clear up when the responsible ingredient is removed from the diet.

An elimination diet is the only proven way to determine which food is affecting your pet. Elimination diets consist of ingredients that haven't been offered to the pet in the past, called novel ingredients. Your veterinarian will prescribe a diet that contains only novel ingredients. The elimination diet can be thought of as a diagnostic test that may last up to 10 weeks. This test takes so long because the allergen may continue to stimulate your pet's immune system for weeks after it is eliminated from the diet. The elimination diet will be the only food that your pet is allowed to eat during the trial period. During this time period, no other food, treats, or bones may be fed to your pet. Even regular medications, such as heartworm preventives, must be given in a nonflavored form. It may be difficult, but this is very important to help your veterinarian determine the food that is affecting your pet. If you want to give your pet a treat during this period, you can offer him or her a small amount of the same food that is being used in the trial. Talk with your veterinarian about this option.

Your veterinarian will probably also need to treat your pet for concurrent skin infections or diarrhea at the beginning of the diet trial because these problems may not resolve without medication.

If the skin and gastrointestinal problems resolve during the trial, your veterinarian may then "challenge" your pet's immune system by feeding the previous diet to see if the signs come back. Sometimes, the diet used for the elimination trial may continue to be fed after the trial is over, if it is balanced and formulated to provide complete nutrition for your pet.

HELPING YOUR ITCHY PET

In some cases, multiple problems contribute to itching in pets.

Scratching can quickly lead to skin damage, bleeding, hair loss, scabs, and secondary skin infections with bacteria or fungal organisms.

Treatment for an itchy pet can require a long-term commitment. You should maintain communication with your veterinarian, especially if a treatment doesn't seem to be helping, or if your pet seems to be responding negatively to a treatment.

Itching is one of the most common problems veterinarians encounter in practice. The causes can include allergies, parasite infestation (for example, fleas or mites), skin infections, or a variety of other conditions. Keeping the pet comfortable while trying to figure out what is causing the itching can present a challenge for you and your veterinarian.

What Causes Itching?

Itching can make pets absolutely miserable, but it is actually a sign of an underlying problem. For example, if the pet has an allergy, exposure to the allergen causes a series of events to happen within the animal's body. Part of this series of events involves causing certain cells in the pet's skin to release a chemical called histamine. When released into the skin, histamine is very irritating and leads to itching. (Histamine is also involved in allergic reactions in people.) Medications that target histamine are called antihistamines. However, histamine is only part of the story. In pets, allergic reactions also cause the release of several other chemicals that

contribute to irritation, inflammation, and itching, but antihistamines can't counteract the effects of all these other agents. Some bacteria and fungal organisms (which can be introduced into the skin during scratching) also release chemicals that irritate nerve endings in the skin and cause itching. If an itchy pet doesn't respond to an antihistamine, it may be because histamine is not playing a large role in the itching that the pet is experiencing.

Less commonly, some animals chew or lick themselves excessively as a compulsive behavior, usually as the result of stress. These kinds of behaviors are caused by the brain and are called psychogenic behaviors.

These many factors are important when considering therapy for itching. Some pets with allergies can do fairly well just on antihistamines, but most other pets need other interventions to help control their problem.

What Are Clinical Signs of Itching?

The clinical signs associated with itching can be mild or very severe:

- Licking
- Biting
- Scratching
- Rubbing
- Twitching the skin
-

Some pets may seem generally agitated, stop suddenly while walking to turn around and scratch, or whine as they are scratching. Scratching can quickly lead to skin damage, bleeding, hair loss, scabs, and secondary skin infections with bacteria or fungal organisms.

How Is Itching Diagnosed?

Itching is a response to another condition, so identifying the cause of the itching is as important as treating the itch. Your veterinarian will likely begin the process with a complete medical history and physical examination of your pet. Your veterinarian may also recommend diagnostic testing that can include the following:

- Combing your pet to look for fleas
- Taking samples of hair and skin cells to look for mites and other skin parasites
- Culture testing to identify bacteria or fungal organisms
- Allergy testing
- Blood work to look for underlying medical issues that can affect the skin

If the problem has been chronic or recurring, your veterinarian will likely ask about what therapies have been tried in the past and whether they were successful. This history can provide useful information about the nature of the underlying problem.

How Is Itching Treated?

Managing an itchy pet can involve combining several approaches, because multiple factors can be contributing to the problem. For example, if a pet has an underlying allergy problem that is complicated by a flea infestation in addition to a bacterial or fungal infection, all of these issues may need to be addressed. In this situation, be sure to clear up any questions about your pet's diagnosis or therapy to minimize confusion and frustration during the course of treatment. Treatment for an itchy pet can require a long-term commitment. Because pets respond differently to medications, your veterinarian may need to revise the treatment plan as therapy is

progressing. It is important to maintain communication with your veterinarian, especially if a treatment doesn't seem to be helping, or if your pet seems to be responding negatively to a treatment.

Topical products: Your veterinarian may recommend a topical product if your pet has mild or localized itching, or as supportive therapy for more generalized conditions. Examples may include moisturizers, ointments, and lotions. These products may need to be applied frequently (sometimes several times daily) to help ease itching. Be sure to follow all label directions, and consult your veterinarian with any questions.

Shampoos: Medicated shampoos can help some pets suffering with itchy skin. The effects of medicated shampoos may last for a few days; some shampoos can be used along with a leave-on conditioner to extend the effects. If you are unable to bathe your pet, another option should be discussed.

Medications: For many pets, corticosteroids (steroids) provide more relief from itching than many other forms of treatment. A variety of products are available, and they can be given as pills, liquid, or by injection. However, corticosteroids have some side effects, and not every pet is a candidate for this treatment. Your veterinarian will evaluate your pet and determine if corticosteroids are a good option. Some pets with itching do well when given antihistamines, and if your pet has a bacterial or fungal skin infection, medications are commonly used to treat those infections. There is also a formulation of cyclosporine that can help dogs with some types of skin allergies.

Supplements: Fatty acid supplements and other nutritional supplements can help some pets with skin itching. However, various formulations are available using fish oils, vegetable oils, and other combinations, and effectiveness can vary. Ask your veterinarian if a nutritional supplement can help your pet.

In some cases, therapies work best for a particular animal when they are combined. One pet may do very well receiving a combination of antihistamines with a shampoo and a nutritional supplement, whereas another pet may not. If your pet is not responding to therapy, contact your veterinarian to see if modifications may be helpful.

HOW TO ADMINISTER EAR MEDICATION TO YOUR DOG

Many outer ear infections in dogs require medicine to be put directly into the ear. Follow your veterinarian's recommendations closely.

Always put health and safety first. If the procedure seems dangerous to you or very painful for your pet, stop and consult your veterinarian.

The Basics

Many outer ear infections in dogs require medicine to be put directly into the ear. This procedure can be relatively easy, as long as you follow a few simple guidelines. The most important guideline is to always put health and safety first. If, for any reason, your pet becomes so agitated that you feel you are at risk of being bitten, stop. If the procedure seems excessively painful for your pet, stop and get your veterinarian's advice.

Some dogs are prone to ear infections and may also need regular ear cleanings at home. Your veterinarian can tell you whether and how often to clean your dog's ears. Severe infections or ones that involve the middle or inner ear may require oral medication in addition to ear medication.

Follow Recommendations

The ear is a very delicate structure. It is very important to closely follow your veterinarian's recommendations for medicating your dog's ear. Treating too frequently or too aggressively can make the problem worse, not better. Sensitive, already inflamed parts of the ear can be damaged. It is important to use only medicines prescribed by a veterinarian.

What You Need

- Old clothes
- Safe, easy-to-clean work area (e.g., tile or linoleum floor, water-resistant walls)
- Towel
- Ear medication prescribed by your veterinarian
- Cotton balls or tissues

Technique

- There are several techniques for applying ear medication. The simplest one is described here. Please follow your veterinarian's instructions.
- Choose a space that's easy to clean (e.g., bathroom, laundry room, shower stall), or take your dog outside. Applying the medicine can be messy.
- Wear old clothes and keep a towel handy.
- If necessary, gently restrain your dog (see Restraining Your Dog, below). You may need a helper.
- Hold the medication bottle or tube just over the opening of the affected ear and gently squeeze the prescribed amount of medicine into the ear. For liquid medicines, do not squeeze the bottle too hard, as a powerful stream can irritate tender, inflamed ear structures. Note: If an ear medication requires refrigeration, do not store it at room temperature; however, allow it to reach room temperature before use to make it more comfortable for your pet.
- Fold the earflap down against your dog's head and try to prevent your dog from shaking his or her head too much. Gently massage the very base of the ear to distribute the solution as far as possible into the ear canal. Ask your veterinarian to demonstrate this massage.
- Keep the medicine in the ear for the prescribed amount of time.
- Allow your dog to shake his or her head to remove some of the medicine. (This is the messy part.)
- Use cotton balls or tissues to gently wipe away any discharge, loosened debris, and remaining medicine from the earflap, side of the neck, hair below the ear, and opening of the ear canal. Do not use cotton swabs because a sudden shake of the head or slip of the hand could result in a cotton swab puncturing the delicate eardrum or pushing debris inside the inner ear canal.
- Please contact your veterinarian if you are experiencing difficulties administering any medication.

Signs of Ear Trouble

- Odor
- Scratching/rubbing at ears or side of head
- Discharge
- Debris

- Shaking/tilting of the head
- Pain
- Head shyness (not wanting the head or ears to be touched)
- Irritability

Restraining Your Dog

Although some dogs are willing to sit or lie quietly while you clean their ears, most object, at least at first. Here are some tips on how to keep your dog from wiggling while you work: Place your dog on a stable work surface that you can stand next to, and allow him or her to lie down, either in an upright “sphinx” position or flat on his or her side. While standing next to your dog, put the arm you will use to treat the ear over your dog’s shoulders, and use your upper arm and elbow to press your dog against your torso to help keep him or her still. You can wrap your other arm under your dog’s neck to hold the ear open and earflap back. If necessary, move to your dog’s other side or turn your dog around to treat the other ear.

If you don’t have a high work surface, you can use the same method while seated on the floor, either holding the front of your dog’s body partially against your body or on your lap. If you have a large dog, you can stand behind your dog and have him or her sit back against your legs. Sometimes it helps to back your dog into a corner.

Small dogs can be wrapped in a large towel and held against your body, leaving only the head free. Be sure not to wrap your small dog too tightly.

If your dog struggles, talk to him or her calmly. Stop if he or she becomes extremely agitated. Massaging the base of the ears (unless they are painful) should feel good to your dog and may help calm him or her enough that you can resume treatment. Be sure to reward good behavior.

HOW TO ADMINISTER EYE MEDICATION TO YOUR DOG

Many eye conditions in dogs require medicine to be put directly into the eye.

Follow your veterinarian’s recommendations closely.

Always put health and safety first. If the procedure seems dangerous to you or very painful for your pet, stop and consult your veterinarian.

The Basics

Many eye conditions in dogs require medicine to be put directly into the eye. This procedure can be relatively easy, as long as you follow a few simple guidelines. The most important guideline is to always put health and safety first. If, for any reason, your dog becomes so agitated that you feel you are at risk of being bitten, stop. If the procedure seems excessively painful for your dog, stop and get your veterinarian’s advice.

Follow Recommendations

The eye is a very delicate structure. It is very important to closely follow your veterinarian’s recommendations for medicating your dog’s eye. Treating too frequently or too aggressively can make the problem worse, not better. Sensitive, already inflamed parts of the eye can be damaged.

It is important to use only medicines prescribed by a veterinarian and to treat for the full length of time prescribed. Do not stop treatment early, even if the problem seems to be resolved.

What You Need

- Safe work area
- Eye medication prescribed by your veterinarian
- Moist cotton balls or tissues

Technique

There are several techniques for applying eye medication. Only one is described here. Ask your veterinarian to demonstrate application of the prescribed medicine and follow his or her recommendations.

- If necessary, gently restrain or muzzle your dog (see Restraining Your Dog, below). You may need a helper.
- Using moistened cotton balls or tissues, gently wipe away any discharge from around the eye.
- Hold the affected eye open with the fingers of one hand. If the medication is liquid (eye drops), hold the upper and lower eyelids apart; if the medication is an ointment, gently pull down on the lower eyelid to create a small gap between the lid and the eye.
- With your other hand, gently squeeze the prescribed amount of medicine into the eye. Drops can be applied to the center of the eye or in the gap between the eye and the lower lid; ointment can be placed in the gap. Do not touch your dog's eye with the medicine container or your fingers.
- Note: If an eye medication requires refrigeration, do not store it at room temperature; however, allow it to reach room temperature before use to make it more comfortable for your pet.
- Either allow your dog to blink to move the medicine across the eye, or, using a very light touch, hold the eye closed for a moment and gently massage.
- Use cotton balls or tissues to gently wipe away any excess medication or discharge.
- Reward your dog with a treat.
- Contact your veterinarian if you have questions or difficulty administering any medication.

Signs of Eye Trouble

- Excessive tearing
- Discharge
- Red eyelids
- Third eyelid visible
- Squinting or closing eye
- Cloudy or dull-looking eye surface; visible mark on eye surface
- Pawing at face
- Swelling or bulging around, near, or in eye

Restraining Your Dog

Keeping your dog still while you medicate his or her eye is important so that you do not accidentally damage the eye or touch the eye with the medicine container. Here are some tips: Place your dog on a stable work surface that you can stand next to, and allow him or her to lie down, either in an upright "sphinx" position or flat on his or her side. While standing next to your dog, put the arm you will use to treat the eye over your dog's shoulders, and use your upper arm and elbow to press your dog against your torso to help keep him or her still. If necessary, move to your dog's other side or turn your dog around to treat the other ear.

If you don't have a high work surface, you can use the same method while seated on the floor, either holding the front of your dog's body partially against your body or on your lap. If you have a large dog, you can stand behind your dog and have him or her sit back against your legs. Sometimes it helps to back your dog into a corner.

Small dogs can be wrapped in a large towel and held against your body, leaving only the head free. Be sure not to wrap your small dog too tightly.

If your dog struggles, talk to him or her calmly. Stop if he or she becomes extremely agitated.

HOW TO GIVE YOUR DOG LIQUID MEDICINE

Liquid medications are prescribed to treat a variety of conditions.

It is important to use only medicines prescribed by a veterinarian and to treat for the full length of time prescribed.

Do not stop treatment early, even if the problem seems to be resolved.

The Basics

Liquid medications are prescribed to treat a variety of conditions. Some medicines that are usually prescribed as pills or capsules can be changed (compounded) to a liquid for easier administration. If you have trouble giving your dog pills, ask your veterinarian if compounding is possible for specific medicines.

Follow Recommendations

It is important to use only medicines prescribed by a veterinarian and to treat for the full length of time prescribed. Do not stop treatment early, even if the problem seems to be resolved. You can ask your veterinarian to demonstrate how to give the prescribed medicine.

Technique

- Liquid medications should come with a dropper or syringe for administration. Fill the dropper or syringe with the prescribed amount of medicine.
- Holding your dog's head still with one hand, insert the tip of the dropper or syringe into a corner of the mouth, between the cheek and the teeth, aiming toward the back of your dog's head.
- Do not tilt your dog's head back; this may cause him or her to inhale the medicine.
- Squeeze the dropper or syringe to empty it.
- Hold your dog's mouth closed and stroke his or her throat (or blow on his or her nose) to encourage swallowing.
- Give your dog a reward (like a treat approved by your veterinarian) to make it a more pleasant experience.
- Contact your veterinarian if you have questions or difficulty administering any medications.

Restraining Your Dog

You may need help keeping your dog still while you administer medicine. If you don't have a helper handy, you may want to sit on the floor and hold the front of your dog's body partially against your body or on your lap. If you have a large dog, you can stand behind your dog and have him or her sit back against your legs. Sometimes it helps to back your dog into a corner.

Small dogs can be wrapped in a large towel and held against your body, leaving only the head free. Be sure not to wrap your small dog too tightly.

If your dog struggles, talk to him or her calmly. Stop if he or she becomes extremely agitated.

HOW TO GIVE YOUR DOG A PILL

Medicines in pill or capsule form are prescribed to treat a variety of conditions.

It is important to use only medicines prescribed by a veterinarian and to treat for the full length of time prescribed.

Do not stop treatment early, even if the problem seems to be resolved.

The Basics

Medicines in pill or capsule form are prescribed to treat a variety of conditions, but many dogs dislike taking pills. Some medicines that are usually prescribed as pills or capsules can be changed (compounded) to a liquid or a powder for easier administration. Some medicines for dogs come in a chewable “treat” form. If you have trouble giving your dog pills, ask your veterinarian if compounding is possible or a treat form is available for specific medicines.

Follow Recommendations

It is important to use only medicines prescribed by a veterinarian and to treat for the full length of time prescribed. Do not stop treatment early, even if the problem seems to be resolved. You can ask your veterinarian to demonstrate how to give the prescribed medicine.

Technique

Some dogs will eat a pill or capsule if it is hidden in a soft treat or in their regular food. However, if the pill is in food, it may be hard to tell whether your dog has taken the pill on time (or at all) if he or she eats throughout the day. Dog treats designed to hide pills are available in many stores. Ask your veterinarian if the prescribed medicine can be given with treats or food and if there are any restrictions on what your dog should eat while taking the medicine.

Another method of giving a dog a pill is:

- For a small dog, put one hand on top of your dog's head, holding firmly—but not too tightly—so that the tips of your thumb and middle finger touch the corners of the mouth.
- For a large dog, put your hand on top of your dog's nose and hold the upper jaw.
- Tilt the head back.
- Hold the pill between the first finger and thumb of your other hand. Use the tips of the other fingers of this hand to push down on your dog's lower jaw to open his or her mouth. Be careful to place your finger on the short teeth at the very front of the mouth, not on the longer (canine) teeth at the corners.
- If you have a large dog, you may be able to fold the upper lip over his or her teeth as you open the mouth. This may discourage your dog from closing her or her mouth.
- Drop or quickly place the pill as far back in your dog's throat as you can. Do not push the pill down.
- Hold your dog's mouth closed and stroke his or her throat (or blow on his or her nose) to encourage swallowing.
- Give your dog a reward (like a treat approved by your veterinarian) to make it a more pleasant experience.

When using this technique, be aware of your dog's mood. If he or she gets agitated and seems likely to bite, stop and try again later or contact your veterinarian.

Contact your veterinarian if you have questions or difficulty administering any medication.

Restraining Your Dog

You may need help keeping your dog still while you administer medicine. If you don't have a helper handy, place your dog in your lap. Put one arm—the one you will use to hold the head—over your pet's shoulders, and use your upper arm and elbow to help keep him or her still. Do not use excessive force to hold your dog still.

If your dog will not stay in your lap, or is too big, you can use the same method while seated on the floor, either holding the front of your dog's body partially against your body or on your lap. If you have a large dog, you can stand behind him or her and have him or her sit back against your legs. Sometimes it helps to back your dog into a corner.

If your dog struggles, talk to him or her calmly. Stop if he or she becomes extremely agitated.

HUMAN FOODS THAT ARE DANGEROUS FOR DOGS AND CATS

Some human foods can cause serious illness (and even death) in dogs and cats.

Pets should not be given human food unless recommended by your veterinarian.

If you suspect your pet may have eaten a dangerous food, contact your veterinarian immediately.

What Do I Need to Know About Foods That Are Dangerous for My Pet?

A number of human foods are dangerous to pets. Many of these foods may seem tasty to our pets but can prove deadly if eaten. It can be very tempting to offer pets food from the table, but pets should not be given human food unless recommended by your veterinarian.

If you suspect your pet may have eaten a dangerous food, contact your veterinarian immediately. In many cases, early recognition and treatment are critical.

Xylitol

Xylitol is an artificial sweetener found in products such as gum, candy, mints, toothpaste, and mouthwash. Xylitol is harmful to dogs because it causes a sudden release of insulin in the body that leads to hypoglycemia (low blood sugar). Xylitol can also cause liver damage in dogs.

Within 30 minutes after eating, the dog may vomit, be lethargic (tired), and/or be uncoordinated. However, some signs of toxicity can also be delayed for hours or even for a few days. Xylitol toxicity in dogs can be fatal if untreated. It is unknown whether xylitol is toxic to cats.

Chocolate, Coffee, and Caffeine

Chocolate contains theobromine, a chemical that is toxic to dogs in large enough quantities. Chocolate also contains caffeine, which is found in coffee, tea, and certain soft drinks. Different types of chocolate contain different amounts of theobromine and caffeine. For example, dark chocolate and baking chocolate contain more of these compounds than milk chocolate does, so a dog would need to eat more milk chocolate in order to become ill. However, even a few ounces of chocolate can be enough to cause illness in a small dog, so no amount or type of chocolate should be considered "safe" for a dog to eat. Chocolate toxicity can cause vomiting, diarrhea, rapid or irregular heart rate, restlessness, muscle tremors, and seizures. Death can occur within 24 hours of ingestion.

Grapes and Raisins

Grapes and raisins can cause acute (sudden) kidney failure in cats and dogs. It is unknown what the toxic agent is in these fruits. However, clinical signs can occur within 24 hours of eating and include vomiting, diarrhea, and lethargy (tiredness). Other signs of illness relate to the eventual shutdown of kidney functioning.

Avocados

The avocado tree leaves, pits, fruit, and plant bark are likely all toxic. Clinical signs in dogs and cats include vomiting and diarrhea.

Garlic and Onions

Garlic and onions contain chemicals that damage red blood cells in cats and dogs. Affected red blood cells can rupture or lose their ability to carry oxygen effectively. Cooking these foods does not reduce their potential toxicity. Fresh, cooked, and/or powdered garlic and/or onions are commonly found in baby food, which is sometimes given to animals when they are sick, so be sure to read food labels carefully.

Macadamia Nuts

Macadamia nuts are common in candies and chocolates. The mechanism of macadamia nut toxicity is not well understood, but clinical signs in dogs include depression, weakness, vomiting, tremors, joint pain, and pale gums. Clinical signs can occur within 12 hours after eating. In some cases, signs can resolve without treatment in 24 to 48 hours, but patient monitoring is strongly recommended.

Prevention

Many cases of human food toxicity in pets are accidental. A pet may find and chew on a package of gum or candy, or steal food from a countertop or table. The best way to prevent this is to keep all food items in closed cabinets or in areas that are inaccessible to pets. This may be particularly difficult during the holiday season, when more candy, chocolate, fruit baskets, and other food items are around. During these times, increased vigilance can help prevent pets from finding and eating dangerous foods.

Unfortunately, some cases of food toxicity in pets occur when pets are given a human food that contains a dangerous component. In general, human food items should not be given to pets unless recommended by your veterinarian. Children should also be taught to never give candy, gum, or other human food items to pets.

If you suspect that your pet has eaten a potentially hazardous item, contact your veterinarian immediately.

For more information on human foods that are dangerous for pets, visit the ASPCA (American Society for the Prevention of Cruelty to Animals) Animal Poison Control Center at <http://www.asPCA.org/pet-care/poison-control/>.

LEPTOSPIROSIS

Leptospirosis is a serious and potentially fatal bacterial disease that can be transmitted to humans.

The disease typically attacks the kidneys and liver of infected dogs.

It is transmitted to dogs through contact with contaminated water, soil, or surfaces. Localized outbreaks may occur in areas that have recently experienced flooding.

Infected dogs require treatment with antibiotics and fluid therapy.

The risk of infection can be reduced by attempting to avoid high-risk environments; vaccination of individual dogs may be recommended.

What Is Leptospirosis?

Leptospirosis is a potentially serious disease caused by the bacterium *Leptospira interrogans*. It affects dogs but can also infect a wide variety of domestic and wild animals and humans. The bacteria can survive for long periods of time in water and are frequently found in swamps, streams, lakes, and standing water. The bacteria also survive well in mud and moist soil, and localized outbreaks can occur after flooding. Infected animals can continue to shed the bacteria in their urine for months or even years after recovery. Carriers of the bacteria include raccoons, opossums, rodents, skunks, and dogs. The disease is transmitted to dogs when they have contact with urine or contaminated water or soil.

Signs of Leptospirosis

Clinical signs typically develop 2 to 12 days after exposure to the bacterium. In many dogs, infection may remain subclinical (without clinical signs) or chronic. In acute, or more serious cases, dogs may experience potentially fatal kidney or liver disease.

Signs include:

- Weight loss
- Fever
- Inappetence (appetite loss)
- Vomiting
- Lethargy
- Muscle and/or joint pain
- Diarrhea
- Bloody urine
- Excessive thirst
- Jaundice
- Excessive bleeding
- Diagnosis and Treatment
-

Leptospirosis can be diagnosed through blood tests; however, tests may need to be performed multiple times to confirm a diagnosis.

Treatment typically consists of a regimen of antibiotics. Complications such as liver or kidney damage or spontaneous bleeding are treated with fluid therapy and other treatments that are appropriate for the individual patient. Hospitalization is required in many cases.

Prevention

Exposure to leptospirosis can be reduced by preventing your dog from drinking from puddles of standing water or from swimming in lakes, streams, or other bodies of water that may be contaminated. Unfortunately, for dogs that are accustomed to an active outdoor lifestyle that includes swimming, these precautions may not be practical.

Prevention of leptospirosis is complicated by the fact that there are more than 200 different serovars (subtypes) of the *Leptospira interrogans* bacterium that can cause illness in animals and people. The available vaccines only protect against a handful of the most common subtypes that infect dogs, which can limit the protective value of the vaccines. Nevertheless, the available vaccines are effective and safe when used as directed, and many veterinarians recommend the vaccination for dogs at risk for exposure. Annual revaccination is required. The leptospirosis vaccine is not required for all dogs. Your veterinarian may recommend this vaccine based on your dog's lifestyle and exposure risk.

Vaccination, no matter how routine, is a medical procedure. Always monitor your pet for signs of a vaccine reaction and follow your veterinarian's instructions on what to do if one occurs. Caution: Humans can also become infected with leptospirosis, so handle dogs suspected of having the disease with care. Adhere to good hygiene techniques, such as frequent handwashing and avoiding contact with potentially contaminated urine.

LICK GRANULOMA

A lick granuloma is a thickened, hairless area of skin that results from excessive, repetitive licking or chewing.

Signs of a lick granuloma include brown-stained hair around the lesion and an area of thickened skin that may be inflamed, infected, or ulcerated.

The lesions usually occur on the lower legs of dogs.

Excessive licking may be caused by underlying conditions, such as allergies, mites, and infections, or may be from boredom or other behavioral problems.

Diagnosis may require skin scrapes, skin cultures, biopsies (tissue samples), blood work, and/or radiographs (x-rays).

Resolving the lesion requires treatment for the underlying condition or behavioral modification and/or medications.

What Is a Lick Granuloma?

A lick granuloma is thickened, raised area of skin that is often hairless, inflamed, infected, or ulcerated, resulting from excessive, repetitive licking or chewing. These lesions are typically found on the lower legs, and may occur alone or on more than one limb.

Lick granulomas tend to occur in dogs more than cats, with a higher incidence in males than females. While lick granulomas may be seen on any dog, breeds with a higher incidence of this condition include Doberman pinschers, Labrador retrievers, Great Danes, German short-haired pointers, German shepherds, and Irish setters.

What Are the Signs of a Lick Granuloma?

The hair around a lick granuloma is often a brownish-red color, caused by saliva staining (substances in saliva stain the fur when licking has been repetitive). The lesion itself is usually bald, and the skin often appears thickened, like scar tissue. The skin may be inflamed, infected, or have sores. Sometimes, the licking has been so severe that the skin is gradually removed and tendons and other structures under the skin are exposed. Pets with lick granulomas may limp on the affected limb.

What Causes Lick Granulomas?

While the lick granuloma is caused by excessive licking, determining the cause of the licking can be a challenge. In some cases, an underlying disease or condition may cause the licking, or it may be a behavioral problem. Possible causes include:

- Allergies
- Mites
- Fungal or bacterial infection
- Foreign body under the skin
- Trauma
- Boredom
- Glandular disorder
- Underlying joint pain

How Is This Condition Diagnosed?

A lick granuloma is usually diagnosed by the appearance of the lesion and a history of the dog licking or chewing at the area. To determine the cause of the licking, your veterinarian may perform a number of tests, including skin scrapes (gently scraping the surface of the skin with a dull instrument to identify mites), skin cultures, skin biopsies (tissue samples), and blood work. He or she may also recommend a radiograph (x-ray) to see if there is a foreign body under the skin or if there has been trauma to the bone or joint beneath the lesion.

How Is a Lick Granuloma Treated?

Treatment for lick granuloma can take many months and usually requires some patience. If an underlying condition has been identified, treatment of this condition should help resolve the granuloma. Treatment may include medications such as antibiotics, antifungals, parasite treatment, antihistamines, pain medication, hormone supplements, or topical steroids. Of course, preventing the pet from licking the area can help resolve the problem, as well. However, bandages, Elizabethan collars (a cone-shaped hood that fits over the head and prevents the pet from reaching his or her legs with the mouth), and bad-tasting substances can't always stop a pet that is determined to lick the area.

If your veterinarian believes that boredom is at the root of the licking problem, he or she may recommend increasing human interaction with the pet, the addition of another animal companion to the household, longer periods of exercise, or chew toys to distract the pet from the lesion. In some cases, behavioral medications, such as antidepressants, may be needed. Because lick granulomas can be difficult to resolve and can have underlying causes, the problem can recur. Notify your veterinarian if your pet seems to be exhibiting the behavior again.

LYME DISEASE TESTS AND VACCINE

Lyme disease is transmitted to dogs (and humans) through the bite of an infected tick.

Many veterinarians use a SNAP test to diagnose Lyme disease.

The SNAP test requires only a small amount of blood and a few minutes to perform.

Sometimes additional laboratory testing is recommended.

Vaccination and careful tick control measures can help protect dogs from Lyme disease.

What Is Lyme Disease?

Lyme disease is an infection caused by the *Borrelia burgdorferi* bacterium. Lyme disease is transmitted through the bite of an infected tick and can affect many species, including dogs and humans.

Ticks of the Ixodes species (called deer ticks) are known to transmit Lyme disease when they attach to a host and feed. Because the tick must be attached for more than 24 hours to transmit Lyme disease, frequent inspection for ticks (and quick removal) can reduce the risk of disease transmission.

Lyme disease is more common in certain areas of the United States, including the Northeast, Mid-Atlantic, and upper Midwest.

Clinical Signs of Lyme Disease

Clinical signs may not appear for several months after a dog is infected with Lyme disease. In fact, many dogs fail to display any obvious clinical signs at all. When signs of infection are noted, they may include the following:

- Lethargy (tiredness)
- Fever
- Painful joints
- Loss of appetite

Clinical signs may seem to resolve on their own, only to reappear at a later time. Lyme disease has also been linked to long-term complications involving the joints, kidneys, heart, and nervous system.

Diagnosis

Lyme disease is usually diagnosed based on a medical history that includes the possibility of tick exposure, suspicious clinical signs, and results of diagnostic testing.

Several tests can identify the *Borrelia burgdorferi* organism in blood or tissues. In addition, a test (called a quantitative C6 antibody test or QC6 antibody test) can measure the level of antibodies to help your veterinarian determine whether treatment is recommended. However, many veterinarians test for Lyme disease using a test called a SNAP test.

SNAP tests are a group of quick, convenient, blood tests that can be performed at your veterinarian's office. There are various SNAP tests for different purposes:

SNAP Heartworm RT Test—screens for heartworm infection

SNAP 3Dx Test—simultaneously screens for heartworm disease, Lyme disease, and ehrlichiosis (another tick-borne disease that can affect dogs)

SNAP 4Dx Test—simultaneously screens for heartworm disease, Lyme disease, ehrlichiosis, and anaplasmosis (also a tick-borne disease that can cause illness in dogs)

SNAP testing is very accurate and is a good way to identify dogs that may be infected with one or more of these diseases. SNAP testing is also very convenient because it uses a very small amount of blood and takes only a few minutes to perform.

In some cases, your veterinarian may recommend additional testing to follow up a SNAP test result or to look for other evidence of illness related to heartworm disease or one of the tick-borne infections. Testing may involve sending additional blood samples to a laboratory for further analysis or performing other diagnostic tests to obtain more information about your dog's condition.

Why Should Dogs Be Tested for Lyme Disease?

Tick-borne diseases such as Lyme disease, ehrlichiosis, and anaplasmosis pose a risk to dogs in many areas of the country. Because clinical signs are not always apparent, periodic testing is a good way to identify dogs that have been infected. Even dogs that receive year-round tick control products and don't spend a lot of time outside are at risk for exposure to tick-borne diseases. Testing helps identify dogs that need treatment for one of these infections or an adjustment in the type of tick control being used.

Your veterinarian can tell you about the risk of Lyme disease, ehrlichiosis, and anaplasmosis to dogs in your area. In some cases, your veterinarian may not recommend testing for all of the diseases. Even if you live in an area where tick-borne diseases are less common, be sure to ask your veterinarian what tick prevention measures can help protect your dog.

Treatment

Treatment of Lyme disease generally consists of administration of antibiotics and (if necessary) other medications to temporarily help control joint pain and other clinical signs. Some dogs show dramatic improvement after only a few days of receiving antibiotics, but most veterinarians recommend a 28- to 30-day course of treatment. Relapses are not uncommon, so pet owners are advised to monitor their dogs carefully for signs of illness.

Prevention

Several vaccines are available to help prevent disease caused by *Borrelia burgdorferi*, the Lyme disease organism. An initial vaccination is followed by a booster vaccine 2 to 4 weeks later (in accordance with label recommendations) and annual boosters, as long as the risk for disease exposure remains.

The Lyme vaccine is not necessarily recommended for all dogs. Ask your veterinarian about the risk of Lyme disease where you live and whether the Lyme vaccine is recommended for your dog.

There are currently no vaccines to protect dogs from other tick-borne diseases, such as ehrlichiosis and anaplasmosis. Appropriate tick control methods combined with periodic testing may be the best ways to help protect dogs from these diseases. Being "tick savvy" can also help protect your dog from Lyme disease exposure:

Check your dog (and yourself) frequently for ticks, and remove them promptly.

Use a reliable method of tick control (several spot-on products kill and repel ticks).

If possible, avoid tall grass or wooded areas where ticks are likely to hide.

If you routinely take your dog camping or walking in wooded areas, ask your veterinarian about the best ways to control ticks.

MICROCHIPPING YOUR PET

Many lost pets are never returned to their owners because they do not have any form of identification.

Microchips are a way of permanently identifying your pet.

Microchips must be registered with a microchip company to reunite you with your pet.

Microchipping is a simple, quick procedure that can be performed by your veterinarian.

Why Microchip?

It is recommended that you identify your pet even if you don't plan to let him or her go outside. Even "indoor" pets can get out by accident, and many lost pets are never returned to their

owners because they have no identification. Collars and tags are popular, effective methods of identification, but they can come off. Microchips, which are implanted just under the pet's skin, are one way to permanently identify pets.

What Is a Microchip?

A microchip is a tiny electronic device—about the size of a grain of rice—that uses radio waves to transmit stored information when it is read by the right kind of scanner. Microchips for pets generally store a unique identification number. They do not need a power source, and they have no moving parts, so they do not wear out. Microchips are made of a material that is compatible with body tissues, so rejection and infection at the site are rare.

After injection, the microchip becomes encased in the tissue at the injection site. It may move slightly, but it usually stays at or near the place it was injected. To read the chip, a compatible scanner must be passed over it. Different microchip companies use different chips; however, there are scanners that can read all kinds of chips.

The Microchipping Procedure

Many veterinary offices have the equipment to implant and scan for microchips. Each microchip comes preloaded in a sterile syringe. To implant the chip, the veterinarian inserts the needle just under the pet's skin between the shoulder blades and pushes the syringe plunger. The entire procedure, like a regular injection, is very quick and does not require pain medication or anesthesia.

How the System Works

When a lost or injured pet is taken to an emergency room or shelter, he or she can be scanned for the presence of a microchip. If the pet has a chip, the scanner reads the pet's identification number. If the chip has been properly registered, the shelter or hospital can provide the number to the microchip company, which maintains the owner's contact information. The microchip company then contacts the owner, and the pet can go home.

Microchip Registration and Maintenance

To complete the microchipping process, you must register your pet's microchip with the microchip company. Some companies charge an extra fee for registration. Unless the microchip company has your information, there is no way for the identification number on the microchip to link you with your lost pet.

Keep the contact information you give the microchip company (e.g., street address, home and cell phone numbers) up-to-date. You may want to confirm this information every year.

It is recommended that you continue to keep a collar on your pet and that you put a tag on the collar indicating (1) that your pet has a microchip and (2) the name of the chip manufacturer. During your pet's regular physical examinations by your veterinarian, the microchip should be scanned to ensure that it accurately transmits the identification number. Scanning is painless and only takes a few seconds.

PHYSICAL THERAPY AND REHABILITATION

Physical therapy and rehabilitation involve the use of therapeutic exercises to help patients recover from acute and chronic health conditions resulting from illness, trauma, or surgery. Physical therapy can reduce pain and improve joint range of motion.

Physical therapy can include hydrotherapy, massage therapy, cold/heat therapy, therapeutic ultrasound, and electrical stimulation therapy.

Be sure to follow the prescribed treatments recommended by your veterinarian.

What Is Physical Therapy and Rehabilitation?

Physical rehabilitation for pets is the use of therapeutic exercises and range-of-motion therapy combined with additional treatments (see the list below for examples) to improve the recovery of patients with acute or chronic health conditions. Physical therapy may be recommended for patients recovering from fractures, orthopedic surgery (including cranial cruciate ligament repair, total hip replacement, or spinal surgery), and neurologic events (such as spinal injury).

Why Might My Pet Need Physical Therapy?

Physical rehabilitation can help restore, maintain, and promote proper functioning and mobility for your pet. It can also enhance recovery after surgery, reduce pain, increase circulation, and improve coordination and range of motion. It can help keep geriatric patients more comfortable and provide a last-chance option for patients who have not had success with other treatments.

The benefits of physical therapy may include:

- Decreased pain
- Improved strength
- Improved functioning of weak limbs
- Healing of injured or inflamed tissues
- Restoration of joint range of motion
- Prevention of muscle atrophy (wasting)

Pets of all ages, sizes, and breeds can benefit from physical rehabilitation. Physical rehabilitation can help improve the quality of life for many animals suffering from chronic pain, osteoarthritis, obesity, or muscle weakness.

What Are Some Common Types of Physical Therapy?

Many types of physical therapy are used in pets. These are some of the more common ones:

Hydrotherapy: Hydrotherapy is the use of water to aid in the healing and/or conditioning of a patient. Pets either swim in a pool or tank for prescribed periods of time or walk on an underwater treadmill. The water level above the treadmill is high enough to provide buoyancy but low enough so that the pet's head and shoulders are above water. Swimming or walking underwater provides pets with the benefits of exercise—building muscle strength and improving coordination, cardiovascular health, and endurance—without the same degree of stress or pressure on joints that would be encountered while walking on the ground. Swimming and underwater treadmills allow pets to make use of the natural resistance of water and the benefit of buoyancy to experience gentle, low-impact exercise. The therapist can control water depth, treadmill speed, and ramp incline to increase or reduce the level of exercise. Hydrotherapy can help pets make the transition to land-based therapy more quickly.

Cold and heat therapy: Application of cold and heat can help damaged areas heal more rapidly, reduce swelling, and provide local pain relief.

Therapeutic ultrasound: Therapeutic ultrasound produces heat deep within tissues. This therapy is useful in treating joint and soft tissue injuries and chronic conditions.

Electrical stimulation therapy: Small electrical currents can be used to help prevent muscle wasting in very weak patients by encouraging the muscles to contract. This therapy can also be used to help manage pain and to increase circulation and promote healing.

Massage therapy and supervised exercise: Physical therapists may also use massage therapy, passive range-of-motion exercises, stretching, and physical therapy tools, such as balls, ramps, boards, poles, and wedges, to help rehabilitate your pet.

Home care: Passive range-of-motion exercises, simple massage therapy, and activity goals can all be accomplished at home to support the success of therapy. Your physical therapist can develop a home treatment plan for you and your pet.

Be sure to follow your veterinarian's recommendations regarding who should perform what types of therapy for your pet.

PROHEART' 6 INJECTION FOR DOGS

Heartworm disease is a serious and potentially fatal condition that attacks the heart, lungs, and related blood vessels.

ProHeart 6 is an injectable heartworm preventive medication that can be used in healthy dogs 6 months of age or older. ProHeart 6 is not for use in cats.

ProHeart 6 injections are given once every 6 months by your veterinarian.

Your veterinarian may recommend a complete physical examination and obtain a thorough health history before administering the injection.

Side effects, although rare, have been reported, so owners should familiarize themselves with the signs and know when to contact their veterinarian.

Your veterinarian will ask you to sign a consent form before administering ProHeart 6 to your dog.

Why Prevent Heartworm Disease?

Heartworm disease is a serious and potentially fatal condition that affects dogs, cats, and up to 30 other species of mammals. It is caused by parasitic worms (heartworms) living in the major vessels of the lungs and, occasionally, in the heart. The scientific name for the heartworm parasite is *Dirofilaria immitis*.

Although heartworm disease is virtually 100% preventable, many dogs are diagnosed with it each year. Heartworm disease has been diagnosed in all 50 states. The American Heartworm Society (AHS) estimates that 1 million dogs in the United States are infected with the disease today, and this number may be rising.

What Is ProHeart 6?

ProHeart 6 is an injectable medication that is used in dogs 6 months of age or older to prevent heartworm disease. Your veterinarian will administer ProHeart 6 as a single injection under your dog's skin. Once the drug is given, it continuously prevents heartworm disease for 6 months. Using ProHeart 6 means that you don't need to remember to administer a monthly oral or topical heartworm preventive medication to your dog.

Heartworm disease is transmitted by mosquitoes. To properly protect your dog, ProHeart 6 should be administered within 1 month before mosquitoes appear where you live. If you are

switching from another heartworm preventive medication, ProHeart 6 should be administered within 1 month after the last dose of the other product. This will help ensure that your dog is continuously protected.

In addition to preventing heartworm disease, ProHeart 6 treats hookworm infections. Hookworms are parasites that can live in the intestines of dogs. These parasites attach to the inner lining of the intestines and drink blood. Hookworm infections can cause severe diarrhea, blood loss, and weight loss. In young puppies, severe hookworm infections can even be fatal. Hookworms can also infect humans, so treating infected dogs also helps to protect other family members.

Important Safety Information

Before initiating heartworm prevention with ProHeart 6, your veterinarian may recommend a full physical examination for your dog. Some diagnostic testing may also be recommended, including a heartworm test. Any dog that tests positive for heartworm disease should be treated before receiving ProHeart 6.

Your veterinarian will likely review your dog's medical history before administering ProHeart 6. Be sure to discuss any of your dog's previous illnesses or medical problems with your veterinarian. ProHeart 6 should not be used in sick, debilitated, or underweight dogs or in dogs with a history of weight loss. It should be used with caution in dogs with a history of allergies, such as food allergy, flea allergy dermatitis, or allergic reactions to vaccines. Talk to your veterinarian about administering ProHeart 6 along with vaccines.

Allergic reactions to ProHeart 6, have been reported. For this reason, owners should closely monitor their dog for 24 hours after injection and should report any of the following side effects immediately: facial swelling, itching, difficulty breathing, and collapse. Other possible side effects may include lethargy (tiredness), reduced appetite, vomiting, diarrhea, seizures, weight loss, and pale gums. Contact your veterinarian as soon as possible if you notice any of these side effects or if you have any other concerns about your dog. The majority of patients with drug-related side effects have recovered when the signs are recognized, and veterinary care, if appropriate, is initiated.

Consent Form

Before ProHeart 6 can be administered to your dog, your veterinarian will ask you to sign a consent form stating that you are aware of the drug's possible side effects and have been educated regarding what signs to look for. By signing the form, owners agree to seek appropriate medical treatment if they notice any side effects in their pet.

ProHeart 6 is only available to eligible veterinarians through a restricted distribution program. The program requires veterinarians to undergo specialized training before being able to administer the heartworm preventive. In addition, the program requires that owners be advised of the potential risks of administration and sign the consent form.

RABIES

Rabies is a deadly disease that is generally fatal in all species. It is transmitted through contact with saliva of an infected animal. There is no effective treatment in animals. It is virtually preventable through vaccination.

What Is It?

Rabies is a deadly disease caused by a virus that attacks the central nervous system. All warm-blooded animals, including wild animals, dogs, cats, and humans, are susceptible to it. Once clinical signs appear, rabies is generally fatal. However, the disease is also generally preventable through vaccination.

While the disease is not common, it remains prevalent in wildlife populations—primarily raccoons, bats, foxes, and skunks—that may have contact with domestic animals. Pets are at risk of contracting the disease from wild animals and potentially transmitting it to humans. The virus can have an incubation period lasting from days to months. Rabies is usually transmitted through contact with the saliva of an infected animal. An animal's saliva becomes infective once the virus has traveled through the animal's nervous system from the initial bite site to the brain and, ultimately, the salivary glands. Pets and people usually become infected through a bite wound. Once the virus enters the salivary glands, the animal can pass the infection to other animals or humans through saliva. Animals with rabies are referred to as rabid.

Signs of Rabies

Clinical signs can be vague and difficult to identify. Signs can progress through several stages, and not all infected animals show evidence of all stages:

- Early signs: Fever, acting nervous or agitated, hiding
- Later signs: Aggression, increased agitation, erratic behavior
- End stage: Muscle weakness and paralysis, coma, death
-

Rabid animals can show unusual agitation or aggression or appear “drunk” or unable to walk. Seizures and drooling may also occur. Drooling results from paralysis of the throat muscles, preventing swallowing. Once signs appear, death usually occurs within 10 days.

Diagnosis and Treatment

Rabies is diagnosed in animals based on clinical signs and postmortem (after death) laboratory testing of brain tissue. There is no effective treatment in animals.

Prevention

Because of the potentially serious human health implications, rabies vaccination of dogs is required by law in virtually all states, and many states also require cats to be vaccinated. Vaccination is the most effective way to prevent the disease in animals and, in doing so, to safeguard human health. In addition, it is recommended that you minimize your pets' exposure to animals that may transmit the infection.

Your veterinarian can advise you of the rabies vaccination schedule required for your state. Some states require an initial vaccination at 12 to 16 weeks of age, a second vaccine at 1 year of age, and subsequent vaccinations every 3 years. Other states require annual revaccination. Other preventive measures include:

- Keeping your pet away from wildlife
- Ensuring that all other dogs or cats that your pet has contact with are vaccinated
- Minimizing contact with stray animals; do not feed stray animals with an unknown vaccination status or allow them to remain near your home and pets

Vaccination helps protect your pet from unnecessary euthanasia or extended quarantine if your pet has contact with a rabid animal. Any pet that bites a human and has an unknown or out-of-date vaccination status may be subject to quarantine or euthanasia, depending on state laws.

REFILLING MEDICATIONS

Remembering to refill prescriptions on time helps protect your pet's safety and health. Some veterinarians require 24 hours' notice for prescription refills, so be sure to allow enough time for your request to be processed.

The best way to avoid running out of medication is to plan ahead and order refills on time. Despite our best efforts as pet owners, we sometimes forget to do things. However, whether you make a note on a calendar or arrange another reminder for yourself, it is important to make sure you remember to refill your pet's medications on time. Your pet's health and safety may depend on it!

Why Do Pets Need Long-Term Medications?

Many illnesses in pets can require long-term administration of medication, including some very common medical conditions:

- Seizure disorders (such as epilepsy)
- Heart disease
- Diabetes
- Thyroid disease
- Arthritis
-

In most cases, long-term medication does not cure the disease, but it controls the clinical signs or has other effects that make the disease more manageable. In some cases, medications can control the signs of chronic illnesses so completely that pet owners sometimes mistakenly believe their pet has been cured and discontinue the medication, only to have the clinical signs reappear. If your pet is having problems or side effects from a medication, notify your veterinarian right away. But in general, you should always give medications as directed by your veterinarian and should not discontinue a medication unless advised to do so.

Long-term medications are not always used to treat illnesses; sometimes, they are given to prevent problems. For example, many veterinarians recommend year-round administration of heartworm preventive medication and products that control fleas, ticks, and intestinal parasites.

What Should I Do If I Run Out of Medication?

If you run out of medication, call your veterinarian right away. In some cases, your pet may be okay if a few doses of the medication are missed; your veterinarian can advise you about what steps to take in the meantime. However, missing even a few doses of insulin, for example, can cause serious problems for your pet. Similarly, certain medications (such as steroids) cannot be discontinued abruptly without causing illness.

How Can I Avoid Running Out of Medication?

The best way to avoid running out of medication is to plan ahead and order refills on time! Every person's life is different, so what works as a reminder for one family may not work for another. Here are some tips:

- Ask your veterinarian if their office can send you reminders. Many veterinarians have computer systems that can let them (and, more importantly, you) know when your pet's

medications need to be refilled. Ask your veterinarian if their reminder system may work for you. In some cases, a phone call, e-mail, or postcard can serve as a reminder.

- Find a creative way to remind yourself. This may involve marking your calendar or sending yourself an e-mail reminder when it is time for a medication refill. Some pet owners link medication refills to another regular event; for example, if there is a household duty that you perform monthly, use that event to remind yourself to also check your pet's medication or order a refill.
- Plan ahead if you are going to be traveling. Before you leave, check to be sure that you have enough of your pet's medication to last for the duration of your trip. If you will run out, leave plenty of time to pick up a refill from your veterinarian before you leave—don't just drop by on the way to the airport. If you are planning an extended trip with your pet, you may need to have his or her medical records forwarded to a veterinarian at your new location so that medications can be dispensed when needed.
- Allow enough time for your veterinarian to refill your medication. Some veterinarians require 24 hours' notice to process prescription refills. Also, some medications must be specially formulated or ordered from an outside pharmacy. Make sure you know your practice's refill policy, and allow enough time for prescription refills to be processed.

SELECTING A GROOMER

Groomers are not regulated or licensed by a government agency.

When looking for a groomer, seek recommendations from friends, veterinarians, trainers, and boarding facilities.

When looking for a groomer, visit the grooming facility during regular business hours to check the cleanliness and observe how pets are handled.

When visiting a grooming facility, ask about its health policies, including proof of vaccination. Some services, such as dental cleanings, should only be provided by a veterinarian.

Brushing your pet and handling its paws at home can help make your pet more comfortable when it's time for professional grooming.

How Do I Find a Groomer?

Choosing a grooming facility based on an ad in the Yellow Pages or on the Internet is not the best way to select a groomer. Because groomers are not regulated or licensed by any government agency, the skills and experience of groomers can vary greatly.

A good way to start looking for a groomer is by asking for recommendations from friends, veterinary hospitals, boarding facilities, and animal trainers. You can also visit Web sites, such as those of the National Dog Groomers Association of America (nationaldoggroomers.com) and the Professional Cat Groomers Association of America (professionalcatgroomers.com). These organizations provide groomers with education and certification and may be able to recommend a groomer in your area. You may also want to consult the Better Business Bureau (bbb.org) to ensure that no complaints have been lodged against a grooming facility that you are considering.

What Kind of Grooming Facility Is Best?

First, decide whether you would prefer to take your pet to a grooming facility or to have a mobile groomer come to your home. In general, mobile groomers charge a little more for convenience. Before taking your pet for grooming, stop by the facility during regular business hours to see the facility and watch the groomer(s) in action. Ensure that the facility is clean and well-ventilated and that the cages look comfortable. If possible, watch the groomer(s) as he or she grooms

pets, noting whether the pets are handled gently and appear stressed. If the facility uses heat-producing dryers, ask how the staff ensures that pets are not burned or overheated.

Ask about the facility's health policy. If it doesn't require proof of vaccination, it is in your pet's best interest to go elsewhere. Ask about the policy on accepting sick pets. For example, coughing dogs may carry a contagious disease that can spread to your dog. For references, you may ask the facility for contact information of current clients.

What Services Should Be Included in Grooming?

It's important to discuss what is included with the grooming fee. Most facilities offer bathing, drying, brushing, clipping, ear cleaning, and nail trimming. In most cases, there is an additional fee for animals that are severely matted or need additional shaving. If your pet has skin allergies, consider taking your own hypoallergenic shampoo to the groomer to avoid skin flare-ups.

Some services should only be performed by a veterinarian. Proper dental cleanings should be done while a pet is under general anesthesia to allow a veterinary professional to remove plaque and tartar from beneath the gum line with minimal stress to the patient. In addition, only a veterinarian should empty anal glands. If your pet has frequent ear infections, ask your veterinarian whether a groomer should pluck ear hair. Pets requiring any kind of tranquilizer or sedative, such as cats that are severely matted, should be groomed at a veterinary facility where they can be closely monitored.

How Can I Make Grooming a Positive Experience for My Pet?

If your pet will require a lot of grooming throughout his or her life, start familiarizing your pet with the grooming facility when he or she is young. At home, try to brush your pet and handle his or her paws on a daily basis. The more comfortable your pet is with being handled, the more tolerant and stress-free he or she will be at the groomer.

TICKS AND YOUR DOG

Ticks can transmit dangerous diseases, like Lyme disease, when they attach to a host and feed. Your veterinarian can recommend safe and effective products to help protect your dog from ticks.

You should never remove a tick with your fingers. Tweezers or tick removal tools work well. When in doubt, ask your veterinary care team for assistance removing a tick.

What Are Ticks?

Ticks are small, eight-legged parasites that must drink blood in order to survive and reproduce. Ticks don't fly, and they can't jump (unlike fleas). In fact, ticks are more closely related to spiders and mites than to "insects" like fleas. Of the hundreds of tick species, approximately 80 are found in the United States. Ticks can feed on a variety of hosts including birds, dogs, cats, and people.

Why Are Ticks a Problem?

If a dog is heavily infested with ticks, the parasites can drink enough blood to cause anemia (severe blood loss). However, ticks are mostly a concern because of the diseases they can transmit to their hosts. Lyme disease and Rocky Mountain spotted fever are among the dangerous diseases that ticks can transmit to your dog. Although people can't catch these

diseases from dogs directly, infected ticks can bite people and transmit them. If your dog is exposed to these dangers, chances are that you and your family may also be at risk for exposure.

How Do Dogs Get Ticks?

Despite a very popular myth, ticks don't fall or jump out of trees onto a host. However, ticks can climb, and they tend to attach themselves to shrubs and blades of tall grass. They can also live in dens of rodents and other small mammals. One species of tick can even live indoors. When a host walks by and brushes against the grass or shrub where the tick is waiting, the tick climbs onto the host. Once on a new host, the tick eventually finds a location to attach and feed. For some diseases, like Lyme disease, a tick must be attached for several hours in order to transmit the infection to a host. This means that if you check your dog (and yourself) daily, you have a chance of finding and removing any ticks before they can transmit Lyme disease.

How Can I Protect My Dog From Ticks?

Keeping your dog out of wooded areas, tall grass, and other tick habitats is a good way to reduce the risk of exposure. However, this can be difficult for many pet owners, especially if they share an active outdoor lifestyle with their dog.

Effective tick control products can be used on dogs to help protect them from ticks. There are many options, including spot-on liquid products and collars. Your veterinarian can recommend a safe and effective product for your dog.

Remember that ticks are successful parasites that can be difficult to kill. Even if you are using an effective tick control product, you should still check your dog daily for ticks and remove any as soon as you find them. You should never remove a tick with your fingers. Tweezers work well, but be sure to grasp the tick close to the head and pull gently to avoid leaving the mouthparts imbedded in the skin. There are also tick removal tools that are very easy to use. Avoid using lighter fluid, matches, or other products that may irritate the skin or cause other injuries to your dog. When in doubt, ask your veterinary care team for assistance removing the tick.

ULTRASONOGRAPHY

Ultrasonography is a diagnostic technique that allows your veterinarian to look inside your pet's body without surgery.

Ultrasonography uses reflected sound waves to create images of organs or spaces inside your pet's body.

Ultrasonography is painless and noninvasive. In many situations, it can be conducted while the pet is awake.

What Is Ultrasonography?

Ultrasonography is a type of diagnostic technique known as an imaging study. This means that when a doctor performs ultrasonography (sometimes called an ultrasound study) he or she can see pictures, or "images," of parts of the patient's body. Other examples of imaging studies include x-rays (radiography) and MRI (magnetic resonance imaging).

Ultrasonography uses high-frequency sound waves—ultrasound—to create a picture of what is inside your pet's body. It is a noninvasive, painless way to diagnose and evaluate many common diseases. Ultrasonography is a very good method for evaluating fluid-filled structures (like the bladder) as well as organs like the liver, spleen, kidneys, and heart.

How Does It Work?

Ultrasonography requires a special machine that can create ultrasound waves. This machine is connected to a small probe that your veterinarian can hold against your pet's skin. The probe sends out painless ultrasound waves that bounce off of structures (e.g., organs) in your pet's body and return to a sensor inside the ultrasound machine. The ultrasound equipment collects these reflected "echoes" and uses them to generate images that are viewable on a screen. In ultrasound images, dense areas (e.g., bone) appear whiter or brighter because they reflect more sound waves back to the sensor; less dense areas, such as fluid, reflect fewer sound waves and appear darker. The term "echogenicity" refers to how reflective an object is—that is, how many echoes it sends back. The denser the object, the higher its echogenicity.

What Is It Used For?

Ultrasound waves can generate excellent images of abdominal organs, such as the following:

- Liver
- Spleen
- Gallbladder
- Adrenal glands
- Pancreas
- Kidneys and urinary tract
- Parts of the stomach and intestine
- Reproductive organs
-

Ultrasonography can also detect the presence of fluid, such as blood or urine. Ultrasound waves cannot penetrate bone, so ultrasonography cannot be used to see objects hidden behind bones, such as the brain.

Because ultrasonography creates images that the doctor sees right away, it can be used to evaluate the heart as it beats for the motion of heart valves and chambers, blood flow through the heart, and contractions of the heart muscle. It can also be used to assess the heart for defects.

Ultrasonography is useful for assessing fetal health and monitoring pregnancy in breeding animals.

Ultrasonography can also play a role in diagnosing and "staging" cancer. Tumors and masses can be located, counted, and measured using ultrasonography, which can be valuable when a veterinarian is looking for evidence of cancer spread. In the same way, ultrasonography can help in monitoring a patient's response to cancer therapy.

The Ultrasonography Examination

In most cases, ultrasound examinations are conducted while the pet is awake. Tranquilizers and anesthesia are generally not required, and food and water restrictions are usually not necessary. The haircoat will be clipped over the area to be scanned. This allows the ultrasound probe to be placed directly against the skin without interference from body hair. A nonirritating gel will be placed on the pet's skin before the examination. This gel provides lubrication, allowing the probe to slide over the skin. It also prevents any air from getting between the probe and the tissue being scanned; this improves the quality of the ultrasound image. The ultrasound examination is noninvasive and painless and typically takes less than 40 minutes to complete. Ultrasonography is a minimally invasive diagnostic option.

VOMITING

Vomiting is the forceful emptying of the stomach.

If vomiting is prolonged, it can lead to dehydration.

Vomiting can be associated with several medical conditions ranging from motion sickness to foreign body ingestion to cancer.

Treatment is aimed at controlling the vomiting and resolving the primary cause.

A safe environment, healthy diet, routine veterinary care, and wellness blood work will go a long way toward preventing vomiting.

What Is Vomiting?

Vomiting is defined as the forceful emptying of the stomach's contents. It is caused by a signal from the brain to the stomach that originates in a part of the brain known as the vomiting center.

Vomiting initially developed because it helps save animals from poisoning. Nerves in the abdomen or certain substances in the bloodstream indicate to the brain that the animal may have eaten something toxic, and vomiting can help to rid the body of the toxic substance.

Although this does occur now, the actual ingestion of toxins has become less of a threat to our pets than to their wild ancestors; over time, many more triggers began to induce the brain to signal vomiting. Prolonged vomiting can be dangerous because it can lead to life-threatening dehydration.

What Are the Causes of Vomiting?

Primary stomach or intestinal diseases that can cause vomiting include:

- Parasites
 - Toxins
 - Foreign bodies
 - Spoiled food
 - Food allergies
 - Stomach ulcers
 - Inflammatory bowel disease
 - Cancer
- Secondary or nonstomach disorders that can cause vomiting include:
- Motion sickness
 - Thyroid disease (in cats)
 - Pancreatitis (inflammation of the pancreas)
 - Pyometra (uterine infection)
 - Kidney or liver disease
 - Canine parvovirus or distemper
 - Feline panleukopenia virus

How Is the Cause of Vomiting Diagnosed?

Before attempting to diagnose what may be causing a pet to vomit, it is very important to differentiate between vomiting and regurgitation. Vomiting requires abdominal effort (constriction of the abdominal muscles) and is the active expelling of stomach contents. In contrast, regurgitation is the passive elimination of contents in the esophagus that happens without nausea or retching. This distinction is important because the medical conditions that tend to cause regurgitation are different from those associated with vomiting.

Once your pet's vomiting has been confirmed, your veterinarian will begin to approach your pet's diagnosis and treatment. In order to narrow the list of possible causes, your veterinarian will take into account your pet's age and species. For instance, a young energetic dog that is

vomiting is more likely to have eaten something it shouldn't have, while a senior cat with weight loss, increased drinking, and vomiting is more likely to have a medical problem such as kidney disease or thyroid disease. Your veterinarian will likely ask detailed questions regarding duration of sickness, weight loss, medications, changes in appetite, and timing of the vomiting with regard to meals. A thorough physical exam will be performed to determine if there is abdominal pain, dehydration, or other abnormalities suggesting the cause of the vomiting. You may want to bring some of the vomit to the hospital because the appearance of the vomit can help with the diagnosis. For example, vomit with black coffee ground-like material indicates that the stomach may be bleeding.

Your veterinarian may also recommend performing laboratory tests on blood, feces, and urine. It may also be necessary to evaluate x-rays and perform an abdominal ultrasound examination. If your veterinarian suspects that the problem may be limited to the stomach and the intestines close to the stomach, an endoscopic examination may be recommended. This procedure requires anesthesia and involves passing an endoscope (a long tube containing a tiny video camera) down your pet's esophagus to look into the stomach and intestines.

How Is Vomiting Treated?

Dehydration from prolonged or severe vomiting is of immediate concern, and it may be necessary to admit your pet to the hospital for fluid replacement while a diagnosis is being pursued. Treatment is aimed at controlling the vomiting itself (to prevent further dehydration) and at gaining control of or eliminating the primary cause of the vomiting.

Some causes of vomiting are easily treated, such as when a pet with an allergy to a certain food stops vomiting when the diet is switched. On the other hand, a pet with stomach cancer may need surgery, chemotherapy, or more prolonged and aggressive treatment.

How Can I Prevent Vomiting?

Vomiting is a signal to the owner and the veterinary team that something is wrong. If your pet vomits once, remove food and water for a few hours. Continuing to eat and drink may cause the vomiting to continue instead of stopping after one episode. If your pet continues to vomit without having anything to eat or drink, call your veterinarian. Also, do not allow your pet to eat grass—this is an old wives' tale and does not benefit the pet. In fact, eating grass can contribute to additional medical problems.

Sometimes it can be very difficult to determine the cause of vomiting. This is especially true if a pet is not well supervised or has access to a variety of things that can cause vomiting. Keeping a watchful eye on what your pet eats and preventing his or her access to harmful substances will help prevent many causes of vomiting. Having routine physical examinations, fecal testing, and wellness blood work performed regularly can permit the early discovery and treatment of medical conditions such as parasites, diabetes, kidney or liver disease, thyroid disease, and other conditions that can cause vomiting. A watchful eye, along with early diagnosis and treatment of primary disease, provide the opportunity to prevent vomiting in many cases.

WEIGHT CHECK

A weight check is the measurement of your pet's weight and the evaluation of your pet's body condition.

A weight check should be performed at every veterinary examination and any time you notice changes in your pet's weight.

Unexpected weight loss may be the first sign of diseases such as diabetes, hyperthyroidism in cats, kidney failure, and cancer.

Weight gain may occur with endocrine (glandular) diseases such as hypothyroidism in dogs.

Regular weight checks are a good way to monitor the progress of a pet's weight-loss program.

What Is a Weight Check?

When checking your pet's weight, your veterinarian will not only weigh your pet on a scale but also assess the appearance of your pet's body condition. Body condition is usually evaluated on a scale of 1 to 9, with 1 being too thin, 9 being obese, and 5 representing the ideal weight. A similar body condition scoring system uses a 1-to-5 scale, with 1 being too thin, 3 being ideal, and 5 indicating obesity.

When your pet is the ideal weight, you should be able to feel (but not see) the ribs, with a minimal fat covering. When observing your pet from above, your pet's waist should be visible behind the rib cage. In dogs, the abdomen should "tuck up" behind the ribcage when viewed from the side.

Visible ribs, spinal vertebrae, and hip bones are usually signs that the pet is too thin. When pets are overweight, it is difficult to feel the ribs, and the waist is not visible when viewed from above.

Why Are Weight Checks Important?

Unexplained weight changes in your pet may be the first sign of a health problem. Regular weight checks enable your veterinarian to investigate these problems early. Excessive weight gain by itself may lead to other health problems, including:

- Diabetes (in cats)
- Arthritis
- Ligament and disk ruptures
- Heart disease
- Skin problems
- Shorter life span

Regular weight checks can help you keep your pet at the ideal weight, which can help him or her have a longer, healthier life.

WHY DO I NEED TO VACCINATE MY PET?

Vaccination is an important weapon against infectious diseases.

Some diseases, like rabies, are transmissible to humans, so protecting your pets also protects your family members and community.

Pets that stay indoors also can be exposed to infectious diseases, so even indoor cats can benefit from vaccinations.

Vaccines are safe and generally well tolerated by most pets.

Vaccine selection and scheduling should be an individualized choice that you and your veterinarian make together.

Companion animals today have the opportunity to live longer, healthier lives than ever before, in part due to the availability of vaccines that can protect pets from deadly infectious diseases.

Over the past several decades, the widespread use of vaccines against diseases like rabies has saved the lives of millions of pets and driven some diseases into relative obscurity.

Unfortunately, infectious diseases still pose a significant threat to dogs and cats that are

unvaccinated; therefore, although vaccine programs have been highly successful, pet owners and veterinarians cannot afford to be complacent about the importance of keeping pets up-to-date on their vaccinations.

How Do Vaccines Work?

Although there are many types of vaccines, they tend to work through a similar principle. Most vaccines contain a very small portion of the virus or bacterium that is the infectious agent. Some vaccines contain small quantities of the entire virus or bacterium, whereas others contain particles that are part of the infectious organism. When this material is introduced into the body in a vaccine, the body's immune system responds through a series of steps that include making antibodies and modifying other cells that will recognize the target organism later. When the vaccinated individual encounters the "real" organism later, the body recognizes the organism and reacts to protect the vaccinated individual from becoming sick.

Why Does My Pet Need Vaccines?

Vaccines protect your pet

Vaccines are one of our most important weapons against infectious diseases. Some diseases, such as "kennel cough," in dogs and rhinotracheitis in cats can be transmitted directly from pet to pet. If your pet is ever around other animals, such as at a kennel, dog park, grooming salon, or daycare facility, exposure to infectious disease is possible. Even pets that look healthy on the outside may be sick, so keeping your pet's vaccines up-to-date is a good way to help prevent illness.

Even primarily indoor pets can be exposed to diseases

Even if your pet doesn't have direct contact with other animals, some diseases can be transmitted indirectly. For example, parvovirus infection, which is potentially fatal, is spread through contact with feces from an infected dog. Even if your dog never has contact with a dog infected with parvovirus, exposure to the virus can occur through contact with feces from an infected dog, such as in a park or on a beach. Lyme disease—a dangerous infection that is carried by ticks—is another disease that your dog can be exposed to without coming into contact with other dogs.

In cats, panleukopenia infection is potentially fatal and spread through contact with body fluids (mostly urine and feces) from an infected cat. Once a cat is infected with panleukopenia, it may shed virus in body fluids for a few days or up to six weeks. Panleukopenia can live in the environment (such as on contaminated bedding, food bowls, litter boxes, and other items) for a very long time, so contact with contaminated objects can spread the infection to other cats. Additionally, if a pet owner is handling an infected cat, failure to change clothes and wash hands thoroughly with the correct disinfectant can expose other cats to the disease.

So, even pets that spend most of their lives indoors or have very limited contact with other animals are not completely safe from exposure to infectious diseases.

Vaccines protect your family and community

Some infectious diseases, such as leptospirosis in dogs and rabies in dogs and cats, are zoonotic diseases. That means humans also can become infected. In the case of rabies and leptospirosis, both diseases can cause serious illness and death in infected individuals – including humans. Protecting your pets against these diseases also protects the rest of your family members, as well as other pets and people in your community.

Are Vaccines Safe?

All of the available vaccines for dogs and cats have been thoroughly tested and found to be safe when administered as directed. Most pets tolerate vaccines very well, although reactions can occur in some cases. Some pets can seem a little “tired” after receiving vaccines. But notify your veterinarian if your pet develops breathing problems, facial swelling, vomiting, hives, redness on the skin, or other unusual changes after receiving a vaccine. You also should tell your veterinarian if your pet has ever had a problem in the past after receiving a vaccine.

Which Vaccines Does My Pet Need?

Many vaccines are available for dogs and cats, but every pet does not need to receive every available vaccine. So how do you know which vaccines your pet should have? The American Animal Hospital Association (AAHA) and the American Association of Feline Practitioners (AAFP) have summarized vaccine recommendations to help veterinarians clarify how to best protect dogs and cats through the use of vaccine programs. AAHA and AAFP evaluated the available vaccines and categorized them to provide guidelines on how commonly they should be used. Vaccines are categorized as core, non-core, or not recommended. A core vaccine is one that all pets should receive. The core vaccines for dogs are rabies, distemper, adenovirus-2, and parvovirus; and the core vaccines for cats are rabies, rhinotracheitis (feline herpesvirus-1), panleukopenia (feline distemper), and calicivirus. Non-core vaccines are optional ones that pets can benefit from based on their risk for exposure to the disease. Examples include the vaccines against Lyme disease and leptospirosis in dogs, and the vaccines against feline leukemia virus and feline immunodeficiency virus (or feline AIDS) in cats. Categorization of a vaccine as “not recommended” does not mean that the vaccine is bad or dangerous. This designation simply means that widespread use of the vaccine is not currently recommended.

Because core vaccines are recommended for all pets, your veterinarian will recommend keeping these vaccines up-to-date at all times. The decision regarding non-core vaccines should be made after you and your veterinarian have discussed the vaccines in question and whether your pet might benefit from receiving them. Factors to consider include your pet’s lifestyle (how much time your pet spends outside), where you live, where you travel with your pet, and how often your pet has contact with other animals. Bear in mind that vaccine recommendations and your pet’s lifestyle can change. Your veterinarian may want to discuss modifying the vaccine recommendations to ensure that your pet is well protected.

What Is The Recommended Schedule For Vaccines?

Puppies and kittens generally receive their first vaccines when they are around six to eight weeks of age (depending on the vaccine and manufacturer’s recommendations). Booster vaccines are generally given during your puppy or kitten checkup visits; your veterinarian can discuss the recommended schedule with you. Vaccines are generally repeated a year later. Although puppies and kittens are considered especially vulnerable to some diseases, it is also very important for adult pets to be up-to-date on vaccines. Traditionally, many vaccines were repeated yearly, during regular checkup examinations. However, research has shown that some vaccines can protect pets for longer than one year. In light of these findings, the AAHA and AAFP guidelines note that some vaccines don't need to be repeated more frequently than every three years. The decision regarding how often your pet needs vaccine boosters depends on several factors, including your pet’s overall health status and risk for exposure to the diseases in question. Your veterinarian may recommend annual boosters after considering your pet’s lifestyle and disease exposure risk. The decision regarding how often to administer any vaccine

(annually, every three years, or not at all) should be an individualized choice that you and your veterinarian make together.

Vaccination remains one of the most important services your veterinarian offers, and although vaccination is a routine procedure, it should not be taken for granted. It also allows a regular opportunity for your veterinarian to perform a physical examination, which is very important for keeping your pet healthy. Protecting patients is your veterinarian's primary goal, and developing an appropriate vaccine protocol for your pet is as important as any other area of medicine.