



FELINE MEDICAL CONDITIONS

PREVENTATIVE CARE

Preventative care practices can help to avoid medical crises in the future. By making the long-term health of our pets a priority on an ongoing basis, we can avoid many medical problems and increase the well-being and longevity of our furry and feathered family members. The following are a list of suggestions and resources that may be useful to pet owners to both enhance overall pet health and develop good preventative care practices.

Spay or neuter your pets. By spaying and neutering your animals, you will decrease their chances of getting mammary tumors and prostate disease, they will be less likely to wander and get injured or lost, and pregnancies can be avoided. Not only are pregnancies potentially risky for your pet, but additional puppies or kittens will add to already significant overpopulation problems and will also cause a financial burden for you. Many areas offer free or low-cost spay and neuter programs, so it is well worth your time to take advantage of these programs and spare your pets disease, injury or death.



Vaccinate your pets. By vaccinating your pets, you decrease their chances of getting serious and preventable illnesses. Many communities also offer low-cost vaccination clinics, so be sure to ask your veterinarian about these services.

Feed a good quality diet. Consultation with your veterinarian is the best way to determine the correct diet for your pets, and spending a little extra money on a quality product can promote long-term good health for your pets.

Use preventative heartworm medications. Your veterinarian can advise you about the risk in your area for heartworm infestations. This is a preventable problem, and a potentially fatal one if ignored.

Get regular “well-pet” checkups. Waiting to see the veterinarian until problems develop is not using good preventative care practice for your animals. As with humans, problems are easier to detect and treat when they are caught in the early stages, and regular checkups will help insure the long-term health of your pets.

Walk your dog every day, and make sure they get enough exercise. Ask your veterinarian about the amount of exercise your breed of dog requires, and provide them with plenty of exposure to fresh air and sunshine. Spending time playing with your cat can also help them to stay active and increase their longevity.

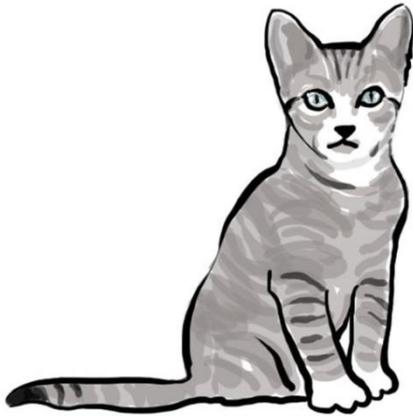
Maintain proper weight for your animals. Avoiding obesity can also help prevent associated conditions like joint problems, heart problems, and diabetes, so it is critical that your pets maintain a healthy weight. Again, consult with your veterinarian about the ideal weight for your pets.

Keep your dog on a leash in public at all times. Do not let your dogs wander loose for any reason – the chances of being hit by cars or getting lost are too great to risk letting them run free. Keeping your cats indoors will also help them live longer and prevent them from being injured or killed in traffic as well.

Consider getting your pet microchipped. If your pet does get lost for any reason, this will help them be located and returned to you. Be sure that your dogs and cats are wearing ID tags on their collars at all times.

Keep your house and yard safe for your pets.

- Bring your car to the gas station to change the antifreeze rather than have this deadly poison anywhere around your house, yard, or garage. If you must keep this product (or any other dangerous product, like transmission fluid) around your house, make sure that you keep your pets away while it is being used and use extreme care to clean up thoroughly afterwards. Do not spill these products into the gutters or street—other pets in the neighborhood may be exposed to these dangerous poisons and you may be liable for their injuries.
- In addition, do not use any toxic pesticide, fungicide, or fertilizer on your yard where your pets have access to them. If you must use these products, do so very carefully, and keep your pets indoors.
- Store all potentially toxic household products including detergents, etc. out of reach of your pets.
- If you use non-stick pots or pans in the kitchen, replace them with non-Teflon coated kitchen pans if you have birds—the fumes from heated non-stick pans are fatal to birds.
- Be mindful of your pets while you are cooking—keep them away from the stove or other potential dangers in the kitchen.
- Keep all drugs including aspirin, Tylenol, and all prescription medications for humans away from dogs and cats – these can be fatal. Ask your veterinarian before administering any medication used for humans for your pets.



Use appropriate flea and tick control. Ask your veterinarian for recommendations about these products, and if you must buy these products without veterinary consultation, choose products carefully and be sure to follow the instructions very carefully. To avoid problems and choose appropriate products, it is best to ask the advice of your veterinarian.

Brush your dog or cat's teeth on a regular basis with a toothpaste formulated for dogs or cats – never with toothpaste designed for human use. This practice can help avoid expensive and serious dental problems later on.

Socialize and train your puppies early. This will help avoid confrontations with other dogs later in life and will also help avoid behavioral problems which can be a challenge to deal with in adult dogs.

Spend time with your pets every day. Pets should be regarded as members of the family, and spending quality time with them will help their emotional well-being and thus enhance their overall health.

Never keep your pets in the car on a hot day. Temperatures in the car, even with the windows down, can reach fatal levels within minutes. If the outside temperature is over 68 degrees Fahrenheit, it is already unsafe to keep animals in the car.

When traveling with your pets, keep dogs in a dog carrier or restrained with a special dog seatbelt (not a human seatbelt) **and keep your cats in carriers as well.** This will help prevent your animals from being injured in an accident, and bear in mind that even at low speeds, unrestrained passengers in the car (whether human, dog, or cat) can be seriously injured.

Consider insuring your pet with a pet insurance program. There are several national pet insurance programs which will cover your pets' needs in the event of an accident or illness. However, these programs do not cover care at the time of treatment, which means you will need to be ready to pay for medical care when your animal is treated. In addition, these plans have restrictions on which procedures are covered by policies, so read the policy limitations carefully. These policies are not a substitute for having a savings account available to cover needed medical care.

Have a savings account for your animals. This is a critical part of preventative care for companion animals. All pets will need medical care throughout their lifetimes, and costs for medical care are continually rising. Veterinarians typically require payment up front before your animal can be treated, so it is important to prepare for emergencies and illnesses ahead of time.

FIV – FELINE IMMUNODEFICIENCY VIRUS

FIV positive cats that are presently non-symptomatic (and some with mild problems that can be successfully treated) can often lead happy, healthy lives for many years.

FIV is not easily spread. It is transmitted almost exclusively through serious (penetrating) bite wounds. High-risk cats are intact males who have been living outside, since these are the cats that are most likely to fight. This means that, when introduced properly into a household with cat-friendly cats, FIV+ kitties may live safely with FIV-negative kitties.

The majority of FIV+ cats never become ill from the virus. From what we have seen, FIV+ cats are more likely to lose their lives because they have tested positive (and no one is willing or able to take them) than because they actually become ill.

Confirm the test result. Make sure the positive test result has been confirmed with a Western Blot blood test. The Western Blot test is much more dependable than the ELISA test, which is used most often in veterinary clinics. Blood must be sent off to a lab for the Western Blot test. A cat can test positive for FIV on the ELISA test (because he/she is carrying antibodies to the virus), but not actually be carrying the virus. The only way to know for sure is to have the Western Blot test performed. The American Association of Feline Practitioners' Academy of Feline Medicine and IDEXX (a test-kit manufacturer) both recommend that the second, more conclusive Western Blot test be done to confirm any diagnosis for FIV that will result in euthanasia of an apparently healthy cat. It's the most complete and up-to-date document on testing and retesting for both FIV and FeLV. Also, test results in kittens under 16 weeks of age are not dependable, since the kitten may be carrying the antibodies from the mother. These cats should be held and retested if at all possible.

What is FIV in cats?

FIV stands for feline immunodeficiency virus. It is a lentivirus, the same class of virus as HIV. FIV, which can live in many different tissues in cats, typically causes a weakening of the cat's immune system.

How do cats get FIV?

One of the tissues in which FIV lives is the salivary glands, so the most common route of infection is a deep bite wound from a FIV-positive cat to another cat. It can also be transmitted via blood, in utero and possibly from milk from an infected mother cat. It is extremely unlikely, if not impossible, for cats to get FIV from just



being around infected cats, from sharing food bowls, or from a person touching a FIV-positive cat and then touching a FIV-negative cat.

What are the signs of FIV infection?

There are no specific signs of FIV infection. FIV-positive cats have a weaker immune system so they are more prone to getting infections such as upper respiratory infections, ringworm and dental disease. Other than that, FIV-positive cats tend to live normal lives and have a normal length of life.

How do I know if my cat has FIV?

There are no obvious signs of FIV so the only way to know is to do a blood test. The most common screening test is an ELISA test (often called a SNAP test) done by your veterinarian, which looks for antibodies to FIV. An antibody is a protein made by the cat in response to FIV infection. A cat can test positive as soon as two to four weeks after exposure, but it can take up to eight weeks.

Kittens under six months of age may test positive after having received antibodies from their mothers, either in utero or via milk. It can take up to six months for these antibodies to go away. Thus, it is a good idea to retest a kitten who tests positive after he or she has reached six months of age.

Can FIV be treated?

There are no proven treatments to rid a cat of FIV. Most FIV-positive cats handle the disease well, but it is important to concentrate on treating the secondary illnesses.

What can be done to prevent the spread of FIV?

Cats should be kept indoors so they do not fight with a FIV-positive cat. Depending on where one lives, the rate of FIV-positive cats ranges from 4 to 24 percent. A FIV-positive cat can live with a FIV-negative cat as long as neither cat is a fighter, or the FIV-positive cat has no teeth. (FIV-positive cats commonly have severe dental disease, which often means it is necessary to remove all their teeth.)

There is a vaccine for FIV, but Best Friends does not recommend it because the vaccine does not have the best efficacy and, after a cat is vaccinated for FIV, the cat will test positive for the virus. At this point, no test can differentiate whether a cat tests positive for FIV from the vaccine or from having the infection. If a cat escapes and is picked up by local animal control, and then tested, the cat may be killed because he or she tests positive.

Can FIV-negative and FIV-positive cats live together?

Yes, as long as the cats get along and do not fight. The risk that a FIV-positive cat could spread the virus to a FIV-negative cat can be minimized by having them live in separate rooms until you are confident that they will not fight with each other.

Can FIV-positive cats have a good and long life?

FIV-positive cats can live normal lives both in quality and duration. They do take special care in terms of monitoring them for signs of infection and they do have a tendency to have bad dental disease.

FELINE IMMUNODEFICIENCY VIRUS

What is Feline Immunodeficiency Virus?

Virologists classify feline immunodeficiency virus (FIV) as a lentivirus (or "slow virus"). FIV is in the same retrovirus family as feline leukemia virus (FeLV), but the viruses differ in many



ways including their shape. FIV is elongated, while FeLV is more circular. The two viruses are also quite different genetically, and the proteins that compose them are dissimilar in size and composition. The specific ways in which they cause disease differ, as well.

How common is the infection?

FIV-infected cats are found worldwide, but the prevalence of infection varies greatly. In the United States, approximately 1.5 to 3 percent of healthy cats are infected with FIV. Rates rise significantly-15 percent or more-in cats that are sick or at high risk of infection. Because biting is the most efficient means of viral transmission, free-roaming, aggressive male cats are the most frequently infected, while cats housed exclusively indoors are much less likely to be infected.

How is FIV spread?

The primary mode of transmission is through bite wounds. Casual, non-aggressive contact does not appear to be an efficient route of spreading FIV; as a result, cats in households with stable social structures where housemates do not fight are at little risk for acquiring FIV infections. On rare occasions infection is transmitted from an infected mother cat to her kittens, usually during passage through the birth canal or when the newborn kittens ingest infected milk. Sexual contact is not a major means of spreading FIV.

What does FIV do to a cat?

Infected cats may appear normal for years. However, infection eventually leads to a state of immune deficiency that hinders the cat's ability to protect itself against other infections. The same bacteria, viruses, protozoa, and fungi that may be found in the everyday environment--where they usually do not affect healthy animals--can cause severe illness in those with weakened immune systems. These secondary infections are responsible for many of the diseases associated with FIV.

What are the signs of disease caused by FIV?

Early in the course of infection, the virus is carried to nearby lymph nodes, where it reproduces in white blood cells known as T-lymphocytes. The virus then spreads to other lymph nodes throughout the body, resulting in a generalized but usually temporary enlargement of the lymph nodes, often accompanied by fever. This stage of infection may pass unnoticed unless the lymph nodes are greatly enlarged.

An infected cat's health may deteriorate progressively or be characterized by recurrent illness interspersed with periods of relative health. Sometimes not appearing for years after infection, signs of immunodeficiency can appear anywhere throughout the body.

- Poor coat condition and persistent fever with a loss of appetite are commonly seen.
- Inflammation of the gums (gingivitis) and mouth (stomatitis) and chronic or recurrent infections of the skin, urinary bladder, and upper respiratory tract are often present.
- Persistent diarrhea can also be a problem, as can a variety of eye conditions.
- Slow but progressive weight loss is common, followed by severe wasting late in the disease process.
- Various kinds of cancer and blood diseases are much more common in cats infected with FIV, too.
- In unsprayed female cats, abortion of kittens or other reproductive failures have been noted.
- Some infected cats experience seizures, behavior changes, and other neurological disorders.

How is infection diagnosed?

Antibody tests detect the presence of antibody in the blood of infected cats.

Positive results

- Because few, if any, cats ever eliminate infection, the presence of antibody indicates that a cat is infected with FIV. This test can be performed by most veterinary diagnostic laboratories and also is available in kit form for use in

veterinary clinics. Since false-positive results may occur, veterinarians recommend that positive results be confirmed using a test with a different format.

- Infected mother cats transfer FIV antibodies to nursing kittens, so kittens born to infected mothers may receive positive test results for several months after birth. However, few of these kittens actually are or will become infected. To clarify their infection status, kittens younger than six months of age receiving positive results should be retested at 60-day intervals until they are at least six months old.

Negative results

- A negative test result indicates that antibodies directed against FIV have not been detected, and, in most cases, this implies that the cat is not infected. Nevertheless, it takes eight to 12 weeks after infection (and sometimes even longer) before detectable levels of antibody appear, so if the test is performed during this interval, inaccurate results might be obtained. Therefore, antibody-negative cats with either an unknown or a known exposure to FIV-infected cats—such as through the bite of an unknown cat—should be retested a minimum of 60 days after their most recent exposure in order to allow adequate time for development of antibodies.
- On very rare occasions, cats in the later stages of FIV infection may test negative because their immune systems are so compromised that they no longer produce detectable levels of antibody.



FELINE LEUKEMIA VIRUS

What is feline leukemia virus?

Feline leukemia virus (FeLV), a retrovirus, so named because of the way it behaves within infected cells. All retroviruses, including feline immunodeficiency virus (FIV) and human immunodeficiency virus (HIV), produce an enzyme, reverse transcriptase, which permits them to insert copies of their own genetic material into that of the cells they have infected. Although related, FeLV and FIV differ in many ways, including their shape: FeLV is more circular while FIV is elongated. The two viruses are also quite different genetically, and their protein constituents are dissimilar in size and composition. Although many of the diseases caused by FeLV and FIV are similar, the specific ways in which they are caused differs.

How common is the infection?

FeLV-infected cats are found worldwide, but the prevalence of infection varies greatly depending on their age, health, environment, and lifestyle. In the United States, approximately 2 to 3% of all cats are infected with FeLV. Rates rise significantly—13% or more—in cats that are ill, very young, or otherwise at high risk of infection.

How is FeLV spread?

Cats persistently infected with FeLV serve as sources of infection. Virus is shed in very high quantities in saliva and nasal secretions, but also in urine, feces, and milk from infected cats. Cat-to-cat transfer of virus may occur from a bite wound, during mutual grooming, and (though rarely) through the shared use of litter boxes and feeding dishes. Transmission can also take place from an infected mother cat to her kittens, either before they are born or while they are nursing. FeLV doesn't survive long outside a cat's body—probably less than a few hours under normal household conditions.

What cats are at greatest risk of infection?

Cats at greatest risk of infection are those that may be exposed to infected cats, either via prolonged close contact or through bite wounds. Such cats include:

- Cats living with infected cats or with cats of unknown infection status
- Cats allowed outdoors unsupervised, where they may be bitten by an infected cat
- Kittens born to infected mothers

Kittens are much more susceptible to infection than are adult cats, and therefore are at the greatest risk of infection if exposed. But accompanying their progression to maturity is an increasing resistance to FeLV infection. For example, the degree of virus exposure sufficient to infect 100% of young kittens will infect only 30% or fewer adults. Nonetheless, even healthy adult cats can become infected if sufficiently exposed.

What does FeLV do to a cat?



Feline leukemia virus adversely affects the cat's body in many ways. It is the most common cause of cancer in cats, it may cause various blood disorders, and it may lead to a state of immune deficiency that hinders the cat's ability to protect itself against other infections. The same bacteria, viruses, protozoa, and fungi that may be found in the everyday environment—where they usually do not affect healthy animals—can cause severe illness in those with weakened immune systems. These secondary infections are responsible for many of the diseases associated with FeLV.

What are the signs of disease caused by FeLV?

During the early stages of infection, it is common for cats to exhibit no signs of disease at all. However, over time—weeks, months, or even years—the cat's health may progressively deteriorate or be characterized by recurrent illness interspersed with periods of relative health. Signs can include:

- Loss of appetite
- Slow but progressive weight loss, followed by severe wasting late in the disease process
- Poor coat condition
- Enlarged lymph nodes
- Persistent fever
- Pale gums and other mucus membranes
- Inflammation of the gums (gingivitis) and mouth (stomatitis)
- Infections of the skin, urinary bladder, and upper respiratory tract
- Persistent diarrhea
- Seizures, behavior changes, and other neurological disorders
- A variety of eye conditions
- In unsprayed female cats, abortion of kittens or other reproductive failures

I understand there are two stages of FeLV infection. What are they?

FeLV is present in the blood (a condition called viremia) during two different stages of infection:

- *Primary viremia*, an early stage of virus infection. During this stage some cats are able to mount an effective immune response, eliminate the virus from the bloodstream, and halt progression to the secondary viremia stage.
- *Secondary viremia*, a later stage characterized by persistent infection of the bone marrow and other tissue. If FeLV infection progresses to this stage it has passed a point of no return: the overwhelming majority of cats with secondary viremia will be infected for the remainder of their lives.

How is infection diagnosed?

Two types of FeLV blood tests are in common use. Both detect a protein component of the virus as it circulates in the bloodstream.

- *ELISA* (enzyme-linked immunosorbent assay) and similar tests can be performed in your veterinarian's office. ELISA-type tests detect both primary and secondary stages of viremia.
- *IFA* (indirect immunofluorescent antibody assay) tests must be sent out to a diagnostic laboratory. IFA tests detect secondary viremia only, so the majority of positive-testing cats remain infected for life.

Each testing method has strengths and weaknesses. Your veterinarian will likely suggest an ELISA-type test first, but in some cases, both tests must be performed—and perhaps repeated—to clarify a cat's true infection status.

How can I keep my cat from becoming infected?

The only sure way to protect cats is to prevent their exposure to FeLV-infected cats.

- Keep cats indoors, away from potentially infected cats that might bite them. If you do allow your cats outdoor access, provide supervision or place them in a secure enclosure to prevent wandering and fighting.
- Adopt only infection-free cats into households with uninfected cats.
- House infection-free cats separately from infected cats, and don't allow infected cats to share food and water bowls or litter boxes with uninfected cats.
- Consider FeLV vaccination of uninfected cats. (FeLV vaccination of infected cats is not beneficial.) Discuss the advantages and disadvantages of vaccination with your veterinarian. FeLV vaccines are widely available, but since not all vaccinated cats will be protected, preventing exposure remains important even for vaccinated pets. FeLV vaccines will not cause cats to receive false positive results on ELISA, IFA, or any other available FeLV tests.

I just discovered that one of my cats has FeLV, yet I have other cats as well. What should I do?

Unfortunately, many FeLV-infected cats are not diagnosed until after they have lived with other cats. In such cases, all other cats in the household should be tested for FeLV. Ideally, infected and non-infected cats should then be separated to eliminate the potential for FeLV transmission.



INCONTINENCE IN FELINES

Incontinence is defined as abnormal voiding behavior showing a loss of voluntary control over the act of voiding with inappropriate urination. It should be distinguished from housetraining lapses and psychological causes.

One cause of incontinence may be an ectopic ureter—an abnormality in development in which instead of attaching to the bladder in the normal location, the ureters may attach very close to the neck of the bladder or even directly to the urethra, therefore bypassing the control sphincters. Since this is a congenital defect, signs are usually noted in cats under 1 year of age. Surgery may be attempted to move the ureter to a more normal location, or the kidney and ureter on that side may be removed. Cats do quite well with just one normal kidney.

When urinary incontinence is associated with FLUTD, the cat may at first experience sudden urges to void, urinate in locations other than the litter box, and void frequently in small amounts. These symptoms are caused by urgency and pain upon urination, but the cat retains some control over the act of voiding. However, if obstructions recur, the repeatedly overdistended bladder loses the ability to contract and empty. A more or less constant dribbling of urine occurs from the inert, overloaded bladder.

Spinal cord injury, especially that associated with pulling apart the sacral-lumbar or coccygeal vertebrae when a car runs over a cat's tail, is a common cause of bladder paralysis, overdistension, and subsequent urinary incontinence. Spinal cord diseases and brain diseases can also lead to loss of bladder and bowel control. The spinal cord defect sometimes seen in Manx cats and associated with their tailless gene may also cause incontinence. Dysautonomia is an unusual neurological problem that often presents with incontinence as one of the signs. Incontinence related to these problems may improve if the primary condition responds to therapy.

Geriatric cats may lose some or all of their control over urination and leak, especially when sleeping. Cats suffering from feline leukemia sometimes show incontinence, as well.

Treatment: Treating incontinence is directed at finding the underlying cause and correcting it if possible. Drugs that act on the bladder muscle may be useful in selected cases.

INCONTINENCE – OTHER MEDICAL CAUSES OF HOUSE SOILING WITH FELINES

House soiling, or inappropriate urination or defecation, is a common problem in cats. While in many cases the cause is a behavioral problem, sometimes medical issues are to blame. If your cat eliminates outside the litter box, she should be checked by a veterinarian for an underlying medical condition before it's determined that the inappropriate elimination is due to a behavior problem. In addition to a complete physical examination, your cat should have a complete blood count, blood chemistry panel and urinalysis. Other tests, such as radiographs that use special dyes to outline the urinary tract, may be necessary as well. If an underlying condition is determined to be the cause of your cat's house soiling, the medical problem should be treated, and her response to treatment should be closely monitored. Once any medical problems are treated, you may still need to retrain your cat to reestablish normal litter box elimination patterns..

Inappropriate Urination

There are several disorders that can be responsible for a cat not using her litter box. Some of the most common medical causes follow.

Bacterial Bladder Infection

Bacterial bladder infection, or bacterial cystitis, is common in cats. (In rare instances, the infection may be due to a fungus rather than bacteria.) Because the infection causes inflammation of the bladder, a cat with this medical problem feels a constant need to urinate. The urge to urinate may become so strong that she urinates small amounts frequently, often before she can reach the litter box. Certain conditions, like bladder stones, bladder tumors, defects in the shape of the bladder and diabetes, may make bladder infections more likely to occur. Female cats are more likely to be affected than males.

Cats suffering from bacterial cystitis may squat frequently to urinate but produce only a small amount of urine. They often continue to strain, even after they're done urinating, and they may cry out while straining. Their urine may appear red in color due to blood. Cats suffering from bladder infections may also show signs such as not eating, lethargy or hiding.

The diagnosis is made by testing your cat's urine for the presence of red blood cells, white blood cells and bacteria. In some cases, your cat's veterinarian may have her urine tested in a lab to determine the specific bacteria involved, which will better guide therapy. Once a diagnosis is made, your cat will be started on a course of antibiotics that may last several weeks. If the condition recurs, your cat's veterinarian may recommend special tests, such as radiographs and dye studies, to look for another cause for your cat's cystitis.



Feline Lower Urinary Tract Disease (FLUTD)

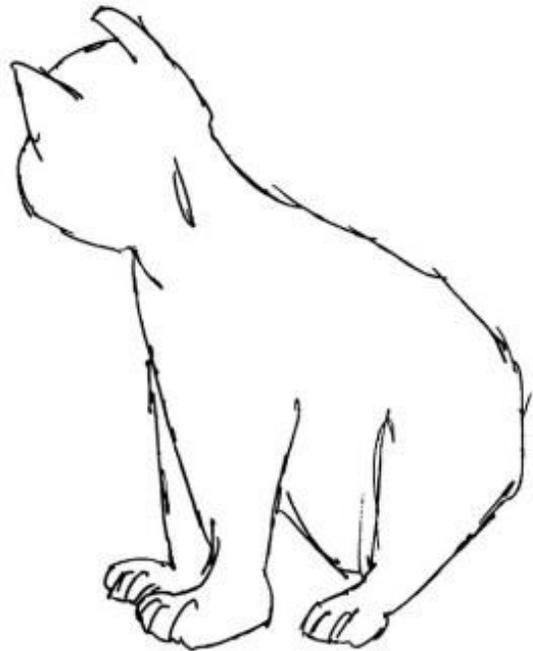
FLUTD is a common condition in cats. Although it has many of the same signs as bacterial cystitis (frequent urination, straining to urinate and bloody urine), there's no bacterial infection. In most cases, no cause for the condition can be determined. Stress, multiple cats in the household and eating dry foods, which reduces urine production, may increase a cat's risk of developing FLUTD. It's more common in male cats, who may develop an obstruction of their urinary tract that makes it impossible for them to urinate. This is a medical emergency that needs immediate veterinary care.

Diagnosis of FLUTD is made by ruling out the other causes of cystitis. The signs may resolve on their own within a week without treatment, but they're likely to recur. Treatment may involve many different strategies. One treatment, environmental enrichment, may decrease the rate of recurrence by 80%. Enrichment involves making various changes in your cat's life to provide her with ample mental stimulation. This can make her more likely to use her litter box. Giving your cat more toys, increasing her access to windows and glass doors so she can see outside, and spending more time petting and playing with her may be helpful. In addition, you may need to increase the number of litter boxes in your home. There should be one litter box per cat, plus an additional box. Unscented litter should be used. The box should be scooped at least once daily and thoroughly cleaned at least once a month with an odorless cleaner. (Avoid using harsh cleaners, such as products containing bleach or ammonia.)

Medical treatment and dietary changes may also be needed to resolve the symptoms of FLUTD. Feed your cat canned food to increase her water intake, and make fresh water available at all times. Some medications may be useful during flare-ups of FLUTD or to reduce long-term symptoms. Drugs to relieve stress and anxiety or to reduce pain and bladder inflammation may be useful for cats who don't respond to environmental enrichment.

Urinary Incontinence

A cat suffering from urinary incontinence loses the ability to control urination and dribbles urine. She may also leave a urine spot where she's been sleeping. Urinary incontinence may be due to many causes that affect the bladder or the urethra, such as injury or a tumor of the spinal cord. Your cat's veterinarian will do a complete work-up, similar to that for cystitis. Additional tests may be needed. Treatment depends on determining the underlying cause and then correcting it or giving medications to prevent the incontinence.



Increased Urine Production

Many diseases can increase the amount of urine a cat produces and lead to urinary accidents and an increased need to urinate. Conditions that may cause increased urine production include:

- Kidney failure
- Kidney infection
- Diabetes
- Liver disease
- Increased thyroid hormone levels

Unlike cats with cystitis, cats with increased urine production generally void large amounts of urine without straining. Other signs may include increased water intake, poor appetite, weight loss and poor hair coat. Cats showing these signs need to be seen by a veterinarian to have a thorough work-up. Treatment depends on the cause of the increased urine production.

Inappropriate Defecation

Inappropriate defecation due to medical reasons is less common than inappropriate urination in cats. Even so, if your cat has defecated outside the litter box, she should be thoroughly examined by a veterinarian, who will run appropriate tests.

Conditions that cause diarrhea may increase urgency, causing a cat to defecate before she can make it to her litter box. So it's important to determine if your cat is passing normal stool or some form of diarrhea. There are many causes of diarrhea, some of which may be temporary or intermittent. Severe constipation can also cause incontinence. Cats with severe constipation may frequently strain to pass stool and do so in an inappropriate place.

Fecal Incontinence

In fecal incontinence, a cat loses the ability to control defecation and may leave stool in random places around the house. This problem is usually caused by nerve damage—due to injury or a tumor of the spinal cord, for example—that prevents the normal control of defecation. Any cat who suffers from fecal incontinence should have a diagnostic evaluation by a veterinarian to determine the cause of the problem.

KIDNEY FAILURE IN CATS

Diagnosis and Treatment

Your cat's kidneys do many important things. They help manage blood pressure, make hormones and red blood cells, and remove waste from her blood.

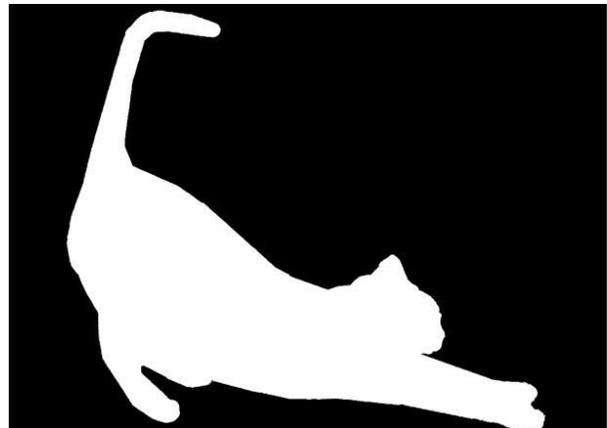
Cats' kidneys begin to fail with age. Untreated, kidney disease can lead to a series of health problems. When it's chronic, there's no cure. But with early diagnosis and good care, you can help boost both the quality and length of your pet's life.

Older cats aren't the only ones at risk. Kittens can be born with kidney diseases. Trauma and infection are also causes.

Types of Kidney Disease

There are two types of kidney failure in cats; acute and chronic. Each has different causes, treatments, and outlooks. Acute renal failure develops suddenly, over a matter of days or weeks. It happens in cats of all ages and is usually the result of:

- Poisons, which are the most common cause of acute renal failure. Antifreeze, toxic plants like lilies, pesticides, cleaning fluids, and certain human medications are highly poisonous to your cat's kidneys. Even a single tablet of ibuprofen can lead to her kidneys shutting down. Check around your house and garage for these substances and make sure your cat can't get into them.
- Trauma, especially involving a broken pelvis or burst bladder.
- Shock from losing a lot of blood quickly or rapid dehydration. Overheating in hot weather, a significant rise in activity, vomiting, and diarrhea can all cause a big dip in fluids.



- Infection in the kidneys.
- Blockages that change the flow of blood into the kidney and the flow of pee out of it.
- Heart failure with low blood pressure, which reduces blood flow to the kidneys.

If diagnosed in time, acute renal failure can often be reversed. But chronic kidney problems can be harder to treat. Found mostly in middle-aged and older cats, they develop over months and even years. If your cat is 7 years or older, pay special attention to her health.

While the exact causes of chronic kidney disease aren't always clear, even to vets, they include:

- Kidney infections and blockages, which may not result in acute renal failure, but wear down kidney function at a low level for months or years.
- Other conditions, from advanced dental disease and high blood pressure to thyroid problems and cancer.

11 Signs Your Cat's Kidneys May Be Failing

- Frequent peeing. While you might think this is a sign your cat's kidneys are working well, it actually means she's no longer able to hold water. Peeing outside her litter box is another signal.
- Drinking a lot of water. This means your cat is trying to replace the fluid she's lost through peeing.
- Bacterial infections of the bladder and kidney, which develop more easily in the dilute pee produced by failing kidneys.
- Weight loss and decreased appetite.
- Vomiting, diarrhea, and bloody or cloudy pee.
- Mouth ulcers, especially on the gums and tongue.
- Bad breath with an ammonia-like odor.
- A brownish-colored tongue.
- A dry coat.
- Constipation.
- Weakness and indifference.

Diagnosis and Treatment

Your vet will do blood and pee tests. X-rays, an ultrasound (an image of your cat's insides), or biopsy (tissue sample) might also be needed to make a diagnosis. If kidney disease is found, treatments can range from surgery to remove blockages to IV fluids to a special diet and medications. You may also be able to inject fluids under your cat's skin at home. Talk to your vet about the best options.

A kidney diet is low in both phosphorus and protein, and is enriched with vitamin D and omega-3 fatty acids. Remember that it's important to introduce your cat to new foods gradually. Your vet can advise you how to make this transition an easy one.

With a carefully managed diet; plenty of fresh, clean water; a serene environment; and regular check-ups, you can help your cat live her best life possible.

First and foremost, we recommend that all pet owners consult with their veterinarian. The information contained herein is meant to be a resource. It is not exhaustive, nor does it indicate an endorsement or recommendation from Greenville County Animal Care. Please do your own due diligence in researching these sources and making the best choice for your pet(s).

FELINE INFLAMMATORY BOWEL DISEASE

Cats that have been diagnosed with IBD may be put on a course of corticosteroids, potent anti-inflammatory and immunosuppressive drugs.



What is inflammatory bowel disease?

Feline inflammatory bowel disease (IBD) is not a single disease, but rather a group of chronic gastrointestinal disorders caused by an infiltration of inflammatory cells into the walls of a cat's gastrointestinal tract. The infiltration of cells thickens the wall of the gastrointestinal tract and disrupts the intestine's ability to function properly. Cats of any age can be affected by IBD; however the disease occurs most often in middle-aged and older cats.

Chronic inflammation of the gastrointestinal tract can occur as a result of a specific disease, such as a parasitic or bacterial infection or a specific food allergy. However, the cause of IBD in many cases is considered to be "idiopathic" or unknown. Current theories suggest that these cases of IBD may be due to a breakdown in the relationship between the normal bacteria that reside in the gastrointestinal tract and the immune system of the gastrointestinal wall.

IBD can present in different forms depending on the type of inflammatory cells and the region of the gastrointestinal tract involved. The most common form of IBD involves an inflammatory infiltrate consisting of lymphocytes (small white blood cells) and plasma cells (cells that produce antibodies) and is called lymphocytic-plasmacytic enteritis. Enteritis refers to the small intestine. If the stomach is involved, the inflammation is described as gastritis, and if the colon (large intestine) is involved, the term colitis is used. Eosinophils are another cell type commonly present in feline IBD. Eosinophils may be present as the predominant cell (for example, eosinophilic gastroenteritis), but are more commonly seen as part of a mixed population of other inflammatory cells. Two less common forms of IBD are called neutrophilic and granulomatous.

What are the symptoms of IBD?

Some common signs of feline IBD include vomiting, weight loss, diarrhea, and lethargy. Appetite can be variable, ranging from ravenous to anorexic. While some cats will show obvious symptoms of disease, such as vomiting after every meal, other cats may exhibit symptoms much less frequently, such as vomiting or producing hairballs once or twice a month. The symptoms of IBD can also vary depending on the area of the digestive tract affected by the disease. For example, if the inflammatory cells are affecting the stomach or higher areas of the small intestine, then the cat may exhibit symptoms of chronic vomiting. If the inflammatory cells are in the colon, then the cat may have diarrhea or blood in the stool. The symptoms may not always correspond to the area affected, especially if the entire digestive tract is involved.

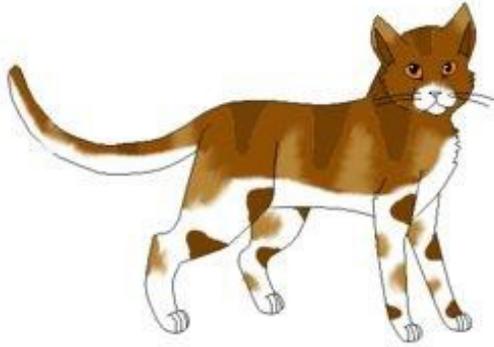
How is feline IBD diagnosed?

Making a diagnosis of feline IBD requires an extensive work up because many of the common symptoms of IBD, such as vomiting and diarrhea, are also common symptoms of other diseases. First, specific causes of gastrointestinal inflammation must be ruled out. Your veterinarian will likely recommend blood work, fecal examinations, radiographs, and/or an ultrasound check for metabolic disease, feline leukemia, parasitic or bacterial infections, and certain types of cancer. A hypoallergenic food trial may also be conducted to rule out food allergy. A definitive diagnosis of feline IBD can only be made based on microscopical evaluation of tissue collected by means of an intestinal (or gastric) biopsy. In a patient with IBD, the tissue sample will show increased numbers of inflammatory cells in the intestinal wall. The types of cells found will indicate what type of IBD is present and help to guide treatment. Gastrointestinal biopsies may be performed with the use of an endoscope or during abdominal surgery. Endoscopy is a less invasive procedure; however, surgery may be recommended for patients in whom liver or pancreatic disease is also suspected, so that those organs can be biopsied as well. Both procedures require general anesthesia, and the associated risks must be considered when deciding whether to perform these tests.

How is IBD treated?

The treatment of inflammatory bowel disease usually involves a combination of change in diet and the use of various medications. Because there is no single best treatment, your veterinarian may need to try several different combinations in order to determine the best therapy for your cat.

Dietary Management



Because dietary allergens may play a role in inflammatory bowel disease, a food trial using hypoallergenic diets may be recommended by your veterinarian. In using a hypoallergenic diet, the key is to use a protein and carbohydrate source that the cat has never eaten before. Rabbit, duck, or venison-based diets are often tried initially.

If the symptoms of IBD are not improved with a hypoallergenic diet, other diets may be tried. Diets high in fiber, low in fat, and easily digestible can be beneficial and are generally better tolerated in cats with IBD. It is important to note that it may take several weeks or longer for cats to improve after a diet change, and during a food trial, all other food sources (including table food, flavored medications, and treats) must be eliminated from the diet.

Medical Treatment

Cats that have been diagnosed with IBD may be put on a course of corticosteroids, usually prednisolone. Corticosteroids have potent anti-inflammatory and immunosuppressive properties. Diabetes and excessive immunosuppression are among the serious side effects these drugs can produce. Cats should be monitored closely while they are on corticosteroids, although they tend to tolerate these drugs well as long as they are given at an appropriate dose and schedule. Corticosteroids are usually given orally, and are started at a higher dose, with a gradual reduction in dose over several weeks. In cats that are difficult to medicate orally or in cases where the vomiting is severe, your veterinarian can give the medications as an injection.

If combinations of dietary management and corticosteroid therapy have failed to adequately control feline IBD, then antibiotics may also be added to the treatment regimen. Metronidazole is a common medication that is used by itself or in conjunction with corticosteroids to control IBD. Metronidazole has antibacterial, anti-protozoal, and immunomodulatory properties. Although side effects are uncommon, some cats may experience loss of appetite and vomiting when given metronidazole. This is likely a response to the unpleasant taste of the medication.

If none of these medications successfully controls the symptoms of IBD, more potent immunosuppressive drugs, such as chlorambucil or azathioprine, may be necessary. These drugs can suppress the bone marrow, so a veterinarian must carefully monitor cats taking these drugs. Because the gastrointestinal microflora (bacteria) may play a role in the development of IBD, newer therapy considerations include using prebiotics (substances that promote certain bacterial populations) and probiotics (bacterial strains that promote gastrointestinal health) to help maintain beneficial bacterial populations in the gastrointestinal tract.

What is the prognosis for cats with inflammatory bowel disease?

Inflammatory bowel disease can often be controlled so that affected cats are healthy and comfortable. However, even with proper management, the disease may wax and wane; and animals may have periods during which they are symptomatic. Optimal control is dependent upon the proper selection of diet and medications. Vigilant monitoring by the veterinarian and owner is critical so that relapses can be assessed and managed and appropriate adjustments in the dosing of long-term medications can be made.

BLINDNESS IN CATS

What Is Blindness?



Blindness in cats is a partial or total loss of vision that can be present from birth or occur suddenly due to injury or illness, or gradually from old age or progressive diseases such as hypertension, cataracts or glaucoma.

How Can I Tell If My Cat's Vision Is Failing?

Since cats usually compensate and adapt successfully, a gradual loss of vision can be difficult to detect. Sudden loss of vision may cause more obvious signs. Here are a few signs that your pet's vision may be failing:

- Misjudging heights and bumping into walls, furniture or other objects
- Confusion in new surroundings
- Reluctance to move from one spot
- General clumsiness and disorientation
- Easily startled
- Eye rubbing or squinting
- Cloudy, discolored, inflamed or tearing eyes
- Large pupils that do not respond to light

What Causes Blindness In Cats?

Though blindness can be a congenital condition or part of the aging process, there are many conditions that can lead to vision loss in cats:

- Feline Progressive Retinal Atrophy (uncommon, only seen in certain breeds)
- Trauma
- Taurine deficiency
- Untreated eye infections or blocked tear ducts
- Glaucoma
- Cataracts
- Diabetes mellitus (in rare cases)
- High blood pressure secondary to other diseases
- Cancer or other tumor
- Inflammation within the eye
- Infectious disease
- Drug reaction

Which Cats Are Prone To Blindness?

Cats of any breed and age can become blind. However, certain diseases that cause blindness are more commonly seen in elderly cats. Bengal, Abyssinian and Persian cats are genetically predisposed to retinal atrophy.

How Is Blindness Diagnosed?

Your vet will perform a preliminary exam of your cat may run diagnostic tests such as blood work and blood pressure measurement. If necessary, your vet will recommend a veterinary ophthalmologist who will perform a more detailed assessment.

How Can I Create a Safe Environment for My Blind Cat?

You can help your cat feel secure in his surroundings by providing a stable, obstacle-free environment. Most cats can adapt very well with their other senses.

- Give extra attention and TLC, especially for elderly pets.
- Avoid moving furniture.
- Don't leave boxes, toys or other objects in walking paths.
- Speak to your cat when you enter the room and before petting or touching him.
- Refrain from making sudden loud noises, which can be startling.
- Do not allow your cat access to the outdoors.
- Keep food, water and litter box all in the same, easily accessible place.
- Let him smell visitors' hands before they touch him.
- Block access to stairs or other perilous places in the home.
- Encourage your cat to use his other senses, scent and sound, as much as possible.



Can Blind Cats Ever Get Their Vision Back?

Loss of vision in cats can be reversible, depending on the cause. Cataracts, which cause mild to total vision loss, can be removed by surgery. Check with your veterinarian to find the most appropriate treatment for your cat's condition.

How Can Blindness Be Prevented?

Pet parents should not let eye infections go untreated and any signs of diabetes, although a rare cause of blindness in cats, should be investigated. Examine your cat's eyes regularly, and take him to the vet if his eyes look cloudy or if you see any changes in his overall activity or attitude. A regular visit to the veterinarian, even if no problems are noted, can help to detect any early problems and keep your cat in the best of health.

DEAFNESS

Deaf cats cannot live outside, but other than that, they do perfectly well in a suitable home. Most cats that are genetically deaf are white. However, illness, injury or old age can also cause deafness.

NEUROLOGICAL IMPAIRMENT

Neurological impairment generally occurs in one of two cases:

- **Cerebellar hypoplasia.** This condition is usually caused by exposure to distemper in utero. It may cause a cat to wobble, weave, twitch or have a head tilt. These cats can live happily in a suitable home. In severe cases, the cat may have difficulty eating, drinking or using a litter box. The cat may require help to eat and drink, and a litter box with lower sides in an easy-access area. Some will not be able to use a box (these we are not usually able to place).
- **Injury, hydrocephalus, encephalitis, etc.** These cats may show the same symptoms as cats with cerebellar hypoplasia, but they also often suffer from seizures. These cats vary widely as far as how they do in any given setting. It's best to get as much information as possible from the vet and caretaker regarding the cat's mobility, improvement over time (or lack thereof), and suspected source of the problem.

PHYSICAL DISABILITY OR DEFORMITY

A missing limb, eye, ear, etc., generally does not significantly affect an animal's quality of life and they can enjoy long, happy and healthy lives.

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We'd like to give thanks and credit to the following organizations, whose published resources were utilized in addition to staff research for this compilation:

The Pet Fund www.thepetfund.com

ASPCA aspca.org

Best Friends Animal Society www.bestfriends.org

American Association of Feline Practitioners and the Cornell Feline Health Center, Cornell University, College of Veterinary Medicine, Ithaca, New York

WebMD Pet Health Feature ASPCA

Cornell University College of Veterinary Medicine

Misericordia University

Washington State University College of Veterinary Medicine

Pets.webmd.com