

Your Pug

Caring for Your Faithful Companion



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Your Pug

Pugs: What a Unique Breed!

Your dog is special! She's your best friend, companion, and a source of unconditional love. Chances are that you chose her because you like Pugs and you expected her to have certain traits that would fit your lifestyle:

- Outgoing, playful personality
- Needs minimal exercise
- Vigilant watchdog with a ready bark
- Even-tempered, affectionate, and happy-go-lucky
- Good with children and other pets
- Small, but sturdy

However, no dog is perfect! You may have also noticed these characteristics:

- Can be independent and strong-willed
- Prone to quite a few health problems
- Makes a lot of snorting, snuffling, and wheezing noises; may snore
- Can be difficult to housetrain
- An indoor dog that doesn't do well in the heat
- Prone to boredom and separation anxiety when left alone and will find trouble

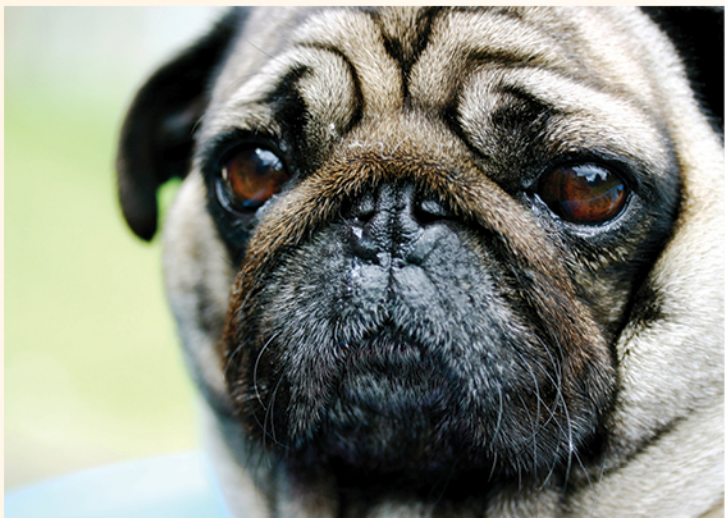
Is it all worth it? Of course! She's full of personality, and you love her for it! Pugs are joyful pals and make great travel companions—who could leave those big brown eyes at home?

Pugs were first bred in China centuries ago. They were treasured pets kept by royalty; it was common for a Pug to have her own guard, palace, and even a personal chef! Many Pug owners agree that their ancestry is strong in that they still behave like royalty! Pugs were first acknowledged by the AKC in 1885 and were quickly welcomed into American homes. The Pug's moderate exercise requirements make her a great apartment pet. Pugs are a generally healthy breed with an average lifespan of 13-15 years.



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General Health Information for your Pug

Dental Disease

Dental disease is the most common chronic problem in pets, affecting 80% of all dogs by age two. Unfortunately, your Pug is more likely than other dogs to have problems with her teeth. Dental disease starts with tartar build-up on the teeth and progresses to infection of the gums and roots of the teeth. If we don't prevent or treat dental disease, your buddy may lose her teeth and be in danger of damage to her kidneys, liver, heart, and joints. In fact, your Pug's life span may even be cut short by one to three years! We'll clean your dog's teeth regularly and let you know what you can do at home to keep those pearly whites clean.

Infections

Pugs are susceptible to bacterial and viral infections — the same ones that all dogs can get — such as **parvo**, **rabies**, and **distemper**. Many of these infections are preventable through vaccination, which we will recommend based on her age, the diseases we see in our area, and other factors.

Obesity

Obesity can be a significant health problem in Pugs. It is a serious disease that may cause or worsen joint problems, metabolic and digestive disorders, back pain, and heart disease. Though it's tempting to give your pal food when she looks at you with those soulful eyes, you can "love her to death" with leftover people food and doggie treats. Instead, give her a hug, brush her fur or teeth, play a game with her, or perhaps take her for a walk. She'll feel better, and so will you!

Parasites

All kinds of worms and bugs can invade your Pug's body, inside and out. Everything from fleas and ticks to ear mites can infest her skin and ears. Hookworms, roundworms, heartworms, and whipworms can get into her system in a number of ways: drinking unclean water, walking on contaminated soil, or being bitten by an infected mosquito. Some of these parasites can be transmitted to you or a family member and are a serious concern for everyone. For your canine friend, these parasites can cause pain, discomfort, and even death, so it's important that we test for them on a regular basis. We'll also recommend preventive medication as necessary to keep her healthy.

Spay or Neuter

One of the best things you can do for your Pug is to have her spayed (neutered for males). In females, this means we surgically remove the ovaries and usually the uterus, and in males, it means we surgically remove the testicles. Spaying or neutering decreases the likelihood of certain types of cancers and eliminates the possibility of your pet becoming pregnant or fathering unwanted puppies. Performing this surgery also gives us a chance, while your pet is under anesthesia, to identify and address some of the diseases your dog is likely to develop. For example, if your pet needs hip X-rays or a puppy tooth extracted, this would be a good time—it's more convenient for you and easier on your friend too. Routine blood testing prior

Your Pug's Health

We know that because you care so much about your dog, you want to take good care of her. That is why we have summarized the health concerns we will be discussing with you over the life of your Pug. By knowing about health concerns specific to Pugs, we can tailor a preventive health plan to watch for and hopefully prevent some predictable risks.

Many diseases and health conditions are genetic, meaning they are related to your pet's breed. There is a general consensus among canine genetic researchers and veterinary practitioners that the conditions we've described herein have a significant rate of incidence and/or impact in this breed. That does not mean your dog will have these problems; it just means that she is more at risk than other dogs. We will describe the most common issues seen in Pugs to give you an idea of what may come up in her future. Of course, we can't cover every possibility here, so always check with us if you notice any unusual signs or symptoms.

This guide contains general health information important to all canines as well as the most important genetic predispositions for Pugs. This information helps you and us together plan for your pet's unique medical needs. At the end of the booklet, we have also included a description of what you can do at home to keep your Pug looking and feeling her best. You will know what to watch for, and we will all feel better knowing that we're taking the best possible care of your pal.

to surgery also helps us to identify and take precautions against common problems that increase anesthetic or surgical risk. Don't worry; we'll discuss the specific problems we will be looking for when the time arrives.

Genetic Predispositions for Pugs

Liver Problems

Your Pug is more likely than other dogs to have a liver disorder called [portosystemic shunt \(PSS\)](#). Some of the blood supply that should go to the liver goes around it instead, depriving the liver of the blood flow it needs to grow and function properly. If your friend has PSS, his liver cannot remove toxins from his bloodstream effectively. To check for this problem, we'll conduct a liver function test in addition to a standard pre-anesthetic panel every time he undergoes anesthesia. If he develops symptoms such as stunted growth or seizures, we'll test his blood and possibly conduct an ultrasound scan of his liver. Surgery may be needed, but in some cases, we can treat with a special diet and medication.

Eye Problems

Not many things have as dramatic an impact on your dog's quality of life as the proper functioning of his eyes. Unfortunately, Pugs can inherit or develop a number of different eye conditions, some of which may cause blindness if not treated right away, and most of which can be extremely painful! We will evaluate his eyes at every examination to look for any signs for concern.

- Because your Pug has eyeballs that naturally protrude, he is more vulnerable to eye injuries. Scrapes or punctures to the cornea (the protective covering on the eyeball) are the most common injuries. Don't let your pet ride in the car with his head out the window as this is a frequent cause of eye injuries. Not only do eye injuries hurt, they can become infected and affect his vision. Call us right away if your pet has any problems with his eyes. A damaged cornea is painful and should be treated immediately. Medication and sometimes surgery may be required.
- [Entropion](#) is a condition in which the eyelid rolls inward, causing the eyelashes to rub against the cornea (the surface of the eyeball). This is an extremely irritating and painful condition that can ultimately lead to blindness. Entropion can occur in any dog breed, however, your Pug is especially at risk for this heritable disorder. Surgical correction is usually successful if performed early.
- Dry eye, also known as [keratoconjunctivitis sicca](#) or KCS, is common in Pugs. KCS reduces the amount of fluid produced by the tear glands such that they are no longer able to keep the eyes moist. This results in sore, itchy eyes and infections. Symptoms of KCS include a dull, dry appearance or thick discharge from the eyes, squinting, and pawing at the eyes. KCS is a painful condition; please call us immediately if you notice any of these signs, and we'll conduct a tear test on your pet. If he has this disease, we'll prescribe ointment that you'll need to apply for the rest of your dog's life.

Diabetes

[Diabetes mellitus](#) is a fairly common disease in dogs. Any breed can be affected, but Pugs have an above average incidence. Dogs with diabetes are unable to regulate the metabolism of sugars in their bodies and require daily insulin injections. Diabetes is a serious condition and one that is important to diagnose and treat as early as possible. Symptoms include increased eating, drinking, and urination, along with weight loss. If he shows signs, we will conduct lab tests to determine if he has this condition and discuss treatment options with you. Treatment requires a serious commitment of time and resources. Well-regulated diabetic dogs today have the same life expectancy as other canines.

Allergies

In humans, allergies to pollen, mold, or dust make people sneeze. In dogs, rather than sneezing, allergies make their skin itchy. We call this skin allergy "[atopy](#)", and Pugs often have it. The feet, belly, folds of the skin, and ears are most commonly affected. Symptoms typically start between the ages of one and three and can get worse every year. Licking the paws, rubbing the face, and frequent ear infections are the most common signs of allergies. The good news is that there are many treatment options available for these conditions.

Mange

[Demodex](#) is a microscopic mite that lives in the hair follicles of all dogs. Normally a dog's immune system keeps the mites in check, but some breeds, like your Pug, may develop an overabundance of these mites. In mild cases, pet owners may notice a few dry, irritated, hairless lesions. These often occur on the face or feet and may or may not be itchy. Secondary skin infections may also occur. Prompt veterinary care is important to keep the disease from getting out of hand. Many pets seem to outgrow the problem, while others require lifelong management.

Skin Infections

Your Pug is prone to a form of skin infection called [lip-fold pyoderma](#), which occurs because the folds of skin along the lower jaw are usually moist. Bacteria and yeast can readily thrive here and cause a reddened, smelly area that is uncomfortable for your dog. We will examine him for this problem often (let us know if you see signs as well), and we'll recommend treatment with antibiotics as necessary. When symptoms are severe, the excess skin folds can also be surgically removed.

Granulomatous Meningoencephalitis (GME)

[GME](#) is an acute, progressive inflammatory disease that affects the central nervous system. It can cause severe and often irreversible damage to the brain. Middle-aged, small breed dogs such as Pugs are more susceptible than other breeds. The cause of GME is unknown, but three distinct syndromes of GME have been recognized. Symptoms may be acute, leading rapidly to death; they may progress chronically over several months; or occasionally, only the eyes are affected. Treatment includes corticosteroids, but the response to therapy is variable and the prognosis is generally poor.



Bone and Joint Problems

A number of different musculoskeletal problems have been reported in Pugs. While it may seem overwhelming, each condition can be diagnosed and treated to prevent undue pain and suffering. With diligent observation at home and knowledge about the diseases that may affect your friend's bones, joints, or muscles, you will be able to take great care of him throughout his life.

- Both hips and elbows are at risk for **dysplasia**, an inherited disease that causes the joints to develop improperly and results in arthritis. Stiffness in your Pug's elbows or hips may become a problem for him, especially as he matures. You may notice that he begins to show lameness in his legs or has difficulty getting up from lying down. We can treat the arthritis—the sooner the better—to minimize discomfort and pain. We'll take X-rays of your dog's bones to identify issues as early as possible. Surgery is also sometimes a good option in severe and life-limiting cases. And keep in mind that overweight dogs may develop arthritis years earlier than those of normal weight, causing undue pain and suffering!
- Young Pugs may be prone to a painful degenerative hip condition called **Legg-Calve-Perthes disease**. The exact cause of this condition is still not completely understood, but it is thought to be caused by a reduced blood supply to the hip, which causes the femoral head (the top of the thigh bone) to become brittle and fracture easily. Usually occurring between six and nine months of age, LCP causes pain and lameness in one or both rear legs, and often requires surgery.
- Sometimes your Pug's kneecap (patella) may slip out of place. This is called **patellar luxation**. You might notice that your pet, while running, suddenly picks up a back leg or skips and hops for a few strides. He might then kick his leg out sideways to pop the kneecap back in place. These are common signs of patellar luxation. If the problem is mild and involves only one leg, your friend may not require much treatment beyond arthritis medication. When

symptoms are severe, surgery may be needed to realign the kneecap to keep it from luxating further.

Spinal Deformities

Pugs are more likely than other canines to be born with spinal deformities, a condition called hemivertebrae, which may lead to spinal cord damage, instability, or disability. We'll take X-rays when your pet is young to ensure that we identify problems early as symptoms can worsen with age, weight, and sometimes activity. During his life, if he develops back problems, we'll rule out any other causes, such as a slipped spinal disc or arthritis. If a deformity is diagnosed, we'll prescribe medication, acupuncture, or rehabilitation as needed.

Mast Cell Tumor

Mast cell tumors are a particularly nasty type of skin cancer found more often in Pugs than other breeds. The sooner these tumors are surgically removed, the better. Unfortunately, mast cell tumors often look very similar to other kinds of skin lumps and lesions, many of which are not harmful. Therefore, all suspicious lumps should be tested and surgically removed as soon as possible. Many cancers are cured by surgical removal, so early detection is critical.

Degenerative Myelopathy

Degenerative myelopathy is a neurologic condition, similar to ALS or Lou Gehrig's disease in people, that causes weakness and poor nerve function in the hind legs. It affects Pugs more frequently than other breeds. If your dog has this disease, he will become increasingly weak and disabled in the hind legs, eventually suffering from paralysis in his hindquarters, which also leads to incontinence. Rehabilitation, exercise, acupuncture, and dietary supplements can be helpful, but there is no cure for degenerative myelopathy. A genetic test is available to determine whether your dog is at risk for this heritable disease.

Bladder or Kidney Stones

There are a few different types of stones that can form in the kidney or in the bladder, and Pugs are more likely to develop them than other breeds. We'll periodically test his urine for telltale signs indicating the presence of kidney and bladder stones, which in addition are very painful! If your buddy has blood in his urine, can't urinate, or is straining to urinate, it is a medical emergency. Call us immediately!

Respiratory Distress Syndrome

Respiratory distress syndrome, also known as **brachycephalic syndrome**, affects dogs with a short nose, like your Pug. Short-nosed dogs have the same amount of tissue in their noses and throats as longer-nosed dogs, but with less area to contain it. As a consequence, the soft palate at the back of the roof of the mouth is too long and may hang down into the airway. These dogs' nostrils are often too small, and sometimes the trachea, or windpipe, is narrow and undersized as well. All of these differences can lead to a narrow and obstructed airway such that many of these dogs can barely breathe! Watch for exercise intolerance, loud breathing, coughing, bluish gums, or fainting. With his short nose, your pet is also more likely to develop other problems, such as flatulence from excessive air intake, pneumonia from aspirating food, and heat stroke. In severe cases, surgical correction may be recommended to alleviate airway obstruction.

Taking Care of Your Pug at Home

Much of what you can do to keep your dog happy and healthy is common sense, just like it is for people. Watch her diet, make sure she gets plenty of exercise, regularly brush her teeth and coat, and call us or a pet emergency hospital when something seems unusual (see “What to Watch For” below). Be sure to adhere to the schedule of examinations and vaccinations that we recommend for her. This is when we’ll give her the necessary “check-ups” and test for diseases and conditions that are common in Pugs. Another very important step in caring for your pet is signing up for pet health insurance. There will certainly be medical tests and procedures she will need throughout her life and pet health insurance will help you cover those costs.

Routine Care, Diet, and Exercise

Build her routine care into your schedule to help your Pug live longer, stay healthier, and be happier during her lifetime. We cannot overemphasize the importance of a proper diet and exercise routine.

- ✓ Supervise your pet as you would a toddler. Keep doors closed, pick up after yourself, and block off rooms as necessary. This will keep her out of trouble and away from objects she shouldn’t put in her mouth.
- ✓ She has low grooming needs. Brush her coat as needed, at least weekly.
- ✓ Pugs often have serious problems with their teeth, so you’ll need to brush them at least three times a week!
- ✓ Clean her ears weekly, even as a puppy. Don’t worry—we’ll show you how!
- ✓ Her deep wrinkles need to be cleaned and dried often to prevent infections.
- ✓ She is well suited for apartment living; she will need a daily walk and regular inside play.
- ✓ She is sensitive to temperature extremes; avoid any prolonged exposure and be very alert to the signs of heat stress.
- ✓ Keep your dog’s diet consistent and don’t give her people food.
- ✓ Feed a high-quality diet appropriate for her age.
- ✓ Exercise your dog regularly, but don’t overdo it at first.

What to Watch For

Any abnormal symptom could be a sign of serious disease or it could just be a minor or temporary problem. The important thing is to be able to tell when to seek veterinary help and how urgently. Many diseases cause dogs to have a characteristic combination of symptoms, which together can be a clear signal that your Pug needs help.

Office calls

Give us a call for an appointment if you notice any of these types of signs:

- ✓ Change in appetite or water consumption
- ✓ Tartar build-up, bad breath, red gums, or broken teeth
- ✓ Itchy skin (scratching, chewing, or licking); hair loss
- ✓ Lethargy, mental dullness, or excessive sleeping
- ✓ Fearfulness, aggression, or other behavioral changes
- ✓ Dry, scaly, sometimes itchy hairless patches on face or paws
- ✓ Lumps or bumps – regardless of size
- ✓ Increased hunger and thirst, weight loss
- ✓ Slow or stunted growth; sometimes seizes after eating

Emergencies

Seek medical care immediately if you notice any of these types of signs:

- ✓ Scratching or shaking the head, tender ears, or ear discharge
- ✓ Inability or straining to urinate; discolored urine
- ✓ Cloudiness, redness, itching, or any other abnormality involving the eyes
- ✓ Dragging the hind toes and hind limb weakness
- ✓ Loud breathing, tires easily at exercise
- ✓ Leg stiffness; reluctance to rise, sit, use stairs, run, or jump; “bunny hopping”



Genetic/DNA Testing

DNA analysis is a rapidly advancing field in healthcare for people and pets. Luckily, technologies exist to screen for hundreds of inherited diseases in pets, just like in people. By screening each pet for as many genetic diseases as possible, we will be better prepared to care for your pet throughout life. This is an important step in caring for your pet because it's always better to know your pal is at risk for a genetic disease before the problem is untreatable.

In an effort to screen for as many genetically linked diseases as possible, we may recommend the **Embark Health Genetic Screen** to screen for more than 150 genetic mutations that cause disease.

Each **Embark Health Genetic Screen** Screens for

- ✓ Over 30 Musculoskeletal Problems
- ✓ Over 30 Metabolic Conditions
- ✓ Over 30 Eye Conditions
- ✓ Over 25 Blood and Clotting Disorders
- ✓ Over 10 Immune System Diseases
- ✓ Over 10 Urinary Tract Problems
- ✓ 10 Skin and Hair Conditions
- ✓ Cancer
- ✓ Dental Disease
- ✓ Drug Metabolism
- ✓ Heart Problems
- ✓ Hormonal Conditions
- ✓ Liver/Gastrointestinal Diseases
- ✓ Midline Defect
- ✓ Neuromuscular Diseases
- ✓ Reproduction Problems
- ✓ Respiratory Conditions

This one-time test is one of the best decisions you can make for your Pug's medical care. With less than a few drops of blood, we'll have a lifetime of information to assist us in providing the very best care of your friend's unique and individual needs throughout her life!

For more information about genetic testing, visit

<http://embarkvet.com>

Your Pug counts on you to take good care of her, and we look forward to working with you to ensure that she lives a long and healthy life. Our goal is to provide the best health care possible: health care that's based on her breed, lifestyle, and age. Please contact us when you have questions or concerns:

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Puppy to Adolescent Health Care Recommendations

How We'll Keep Your Pug		Puppy to Adolescent: Infant to 17 in People Years		Pug-Specific Problems We're Looking For	
(✓)	Age	Services We'll Provide		Pug-Specific Problems We're Looking For	
○	6–9 weeks	Head-to-tail physical examination Eye disease screen Oral health assessment Heart health check Bone and joint exam Parasite detection/prevention Vaccinations Discuss socialization and at-home puppy care		Breed-specific physical abnormalities plus Dental alignment, heart murmur, hernia Exophthalmos/Corneal ulcers and Entropion Brachycephalic syndrome Portosystemic shunt (PSS) Hemivertebrae	
○	10–13 weeks	Head-to-tail physical examination Eye disease screen Oral health assessment Heart health check Skin and coat exam Bone and joint exam Parasite detection/prevention Vaccinations Discuss caring for your dog's teeth and ears at home		Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Entropion Brachycephalic syndrome Portosystemic shunt (PSS) Demodicosis and Skin fold pyoderma/Intertrigo Hemivertebrae	
○	14–16 weeks	Head-to-tail physical examination Eye disease screen Oral health assessment Heart health check Skin and coat exam Bone and joint exam Parasite prevention Vaccinations Discuss obedience and grooming		Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Entropion Brachycephalic syndrome Portosystemic shunt (PSS) Demodicosis and Skin fold pyoderma/Intertrigo Hemivertebrae	
○	4–6 months	Head-to-tail physical examination Eye disease screen Oral health assessment Heart health check Skin and coat exam Bone and joint exam Pre-surgical diagnostics Discuss microchipping		Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Entropion Brachycephalic syndrome Portosystemic shunt (PSS) Demodicosis and Skin fold pyoderma/Intertrigo Hemivertebrae, Hip dysplasia, and Legg-Calve-Perthes	
○	6 months through 1 year	Head-to-tail physical examination Eye disease screen Oral health assessment Heart health check Skin and coat exam Bone and joint exam Neurological assessment Parasite prevention Vaccinations Discuss lifetime genetic considerations		Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers, Entropion, and Keratoconjunctivitis sicca (KCS) Brachycephalic syndrome Portosystemic shunt (PSS) Demodicosis, Skin fold pyoderma/Intertrigo, and Allergies Hemivertebrae, Hip dysplasia, Legg-Calve-Perthes, Elbow dysplasia, and Patellar luxation Granulomatous meningoencephalitis (GME)	
				All major diseases important in the breed with diagnostic plan	

Adult to Golden Years Health Care Recommendations

How We'll Keep Your Pug Healthy	(✓)	Age	Services We'll Provide	Pug-Specific Problems We're Looking For
	○	1 years through 9 years	Head-to-tail physical examination Eye disease screen Oral health assessment Skin and coat exam Internal organ health evaluation Endocrine screening Bone and joint exam Neurological assessment Parasite prevention Vaccinations Discuss behavior and nutrition Schedule spay/neuter after 1 year	Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Keratoconjunctivitis sicca (KCS) Brachycephalic syndrome Skin fold pyoderma/Intertrigo and Allergies Urolithiasis Diabetes Hip dysplasia, Elbow dysplasia, and Patellar luxation Granulomatous meningoencephalitis (GME) and Degenerative myelopathy
	○	10 years through 12 years	Head-to-tail physical examination Eye disease screen Oral health assessment Skin and coat exam Internal organ health evaluation Endocrine screening Bone and joint exam Neurological assessment Cancer screen Parasite prevention Vaccinations Discuss mental and physical well-being	Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Keratoconjunctivitis sicca (KCS) Brachycephalic syndrome Skin fold pyoderma/Intertrigo and Allergies Urolithiasis Diabetes Hip dysplasia, Elbow dysplasia, and Patellar luxation Granulomatous meningoencephalitis (GME) and Degenerative myelopathy Mast cell tumors
	○	11 years and older	Head-to-tail physical examination Eye disease screen Oral health assessment Skin and coat exam Internal organ health evaluation Endocrine screening Bone and joint exam Neurological assessment Cancer screen Parasite prevention Vaccinations Discuss mental and physical well-being	Breed-specific physical abnormalities plus Exophthalmos/Corneal ulcers and Keratoconjunctivitis sicca (KCS) Brachycephalic syndrome Skin fold pyoderma/Intertrigo and Allergies Urolithiasis Diabetes Hip dysplasia, Elbow dysplasia, and Patellar luxation Granulomatous meningoencephalitis (GME) and Degenerative myelopathy Mast cell tumors

Note: We recommend twice-a-year examinations so that we may diagnose problems sooner. This approach also gives you the budget-friendly option of spreading preventive testing over two visits rather than one.