

skin. Scratching and chewing may lead to bloody sores and skin infections. People who come in close contact with an affected dog also may develop a skin rash, which may need a doctor's attention. To confirm the presence of sarcoptic mange mites in your dog, your veterinarian will perform a skin scraping of affected areas and examine it under a microscope. If no mites are found but their presence is still strongly suspected, your veterinarian instead may diagnose sarcoptic mange based on the signs your dog is showing.

Treatment and control

Dogs with sarcoptic mange require medication to kill the mites and additional treatment to soothe the skin and resolve related infections. Cleaning and treating the dog's environment is also necessary.

DEMODECTIC MANGE MITES: WHAT ARE THEY AND HOW ARE THEY SPREAD?

Demodectic mange caused by demodectic mange mites is mainly a problem in dogs. It's normal to find a few of these microscopic mites on a dog's or cat's skin. These mites are not highly contagious. However, a mother dog or cat may pass the mites to her puppies or kittens.

Disease and diagnosis

Demodectic mange may be limited to particular areas of the body (known as localized demodicosis), or may be more widely spread (known as generalized demodicosis). Localized demodicosis tends to appear in dogs less than 6 months old. It usually shows up as non-itchy patches of scaly skin and redness around the eyes and mouth and, perhaps, the legs and trunk. These patches generally will go away on their own, without treatment. On the other hand, generalized demodicosis is a more severe disease caused when an underlying medical condition affects the body's ability to keep the mites in check. In this less common form, young and old dogs alike can have widespread patches of redness, hair loss, and scaly, thickened skin. They also can develop bacterial infections that require additional treatment.

To confirm demodectic mange, your veterinarian will perform a skin scraping from affected areas and

examine it under a microscope. A fecal test also may be recommended to increase the chance of finding the mites, because pets may swallow them when self-grooming.

Treatment and control

Your veterinarian will discuss treatment options with you. For dogs with localized demodicosis that fails to go away on its own, treatment generally results in good outcomes. Generalized demodicosis is more difficult to treat, and aggressive, extended treatment may be necessary.

GENERAL TIPS FOR MANAGING EXTERNAL PARASITES

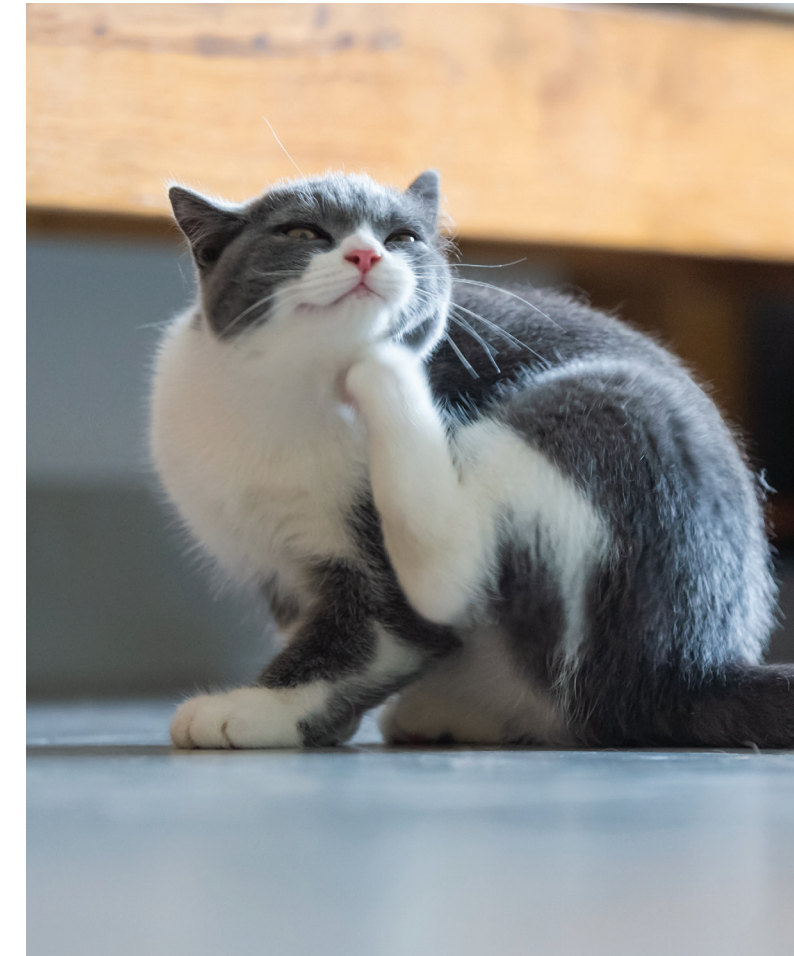
- Look for fleas, ticks, and coat abnormalities any time you groom your dog or cat or when you return home from areas that are likely to have higher numbers of these parasites.
- Consult your veterinarian if your pet excessively scratches, chews, or licks their coat, or persistently shakes their head or scratches their ears.
- Use parasite preventives for your pet—and promptly treat any infestations—to avoid or lessen your pet's discomfort, disease transmission, and home infestation from external parasites.
- Consult your veterinarian for recommendations on products that can effectively and safely control your pet's parasite problem and protect them from future infestations.
- Discuss the health of all family pets with your veterinarian when one pet becomes infested. Some parasites cycle among pets, making control of infestations difficult unless other pets are considered.
- Tell your veterinarian if you've tried any parasite remedies, as this may impact your veterinarian's recommendation.
- Always carefully follow the manufacturer's or veterinarian's directions when using flea and tick control products.
- Be especially careful when using insect control products for or around cats, as cats are particularly sensitive to these products. **Never use a product that is not approved for cats because the results could be deadly.**

FOR MORE INFORMATION ON HOW TO KEEP YOUR PET HAPPY AND HEALTHY AS LONG AS POSSIBLE, VISIT:

American Veterinary Medical Association
avma.org/PetOwners

EXTERNAL PARASITES

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External parasites like fleas, ticks, and mites are common in pets. When pets have external parasites, they're said to have an "infestation." Besides being extremely irritating, infestations can cause serious skin problems and even disease. Fortunately, advances in veterinary medicine have made it easy to treat, control, and prevent many external parasites.

FLEAS : WHAT ARE THEY AND HOW ARE THEY SPREAD?

Despite their tiny size (no bigger than a sesame seed), fleas pack a mighty punch. Fleas thrive when the weather is warm and humid, and they may be either a seasonal or year-round problem, depending where you live. Outdoors, a common source of fleas is cool, shady spots, especially places where other pets rest. Pets also can pick up fleas from flea-infested indoor areas such as pet bedding or carpets, or directly from a flea-infested animal. The "cat flea" is the most common flea species affecting both cats and dogs.

Adult fleas bite and eat blood, but that's not all. After jumping aboard an animal or "host," adult fleas soon start reproducing. A single female flea can produce up to 50 eggs a day! These eggs fall off their host, into the environment, then hatch into tiny, worm-like larvae that embed themselves in carpets, under furniture, on plants, or in soil. There, the larvae spin a cocoon and can remain cocooned for weeks before hatching as adults, ready to continue the life cycle anew.

Disease and diagnosis

Signs of flea problems range from mild redness to severe scratching that can lead to open sores and skin infections ("hot spots"). One of the first things you may notice on your pet is "flea dirt"—the black flea droppings left on your pet's coat. Although you may not see the fleas themselves, the parasites can still be present on your pet and in the environment.

Itchiness isn't the only problem. Young or small pets with heavy infestations may become anemic from blood loss. Some pets can become allergic to flea saliva, making them severely itchy from just one or two flea bites. Also, pets (and children) can catch certain types of tapeworms if they swallow fleas carrying tapeworm eggs. In households with more severe flea infestations, fleas may also bite people, causing an allergic response. Although fleas can spread some bacterial diseases (including bartonellosis or "cat scratch disease") to pets and people, this happens only rarely.

Treatment and control

Even the best-cared-for pets can catch fleas. If your pet has fleas, your veterinarian will recommend an appropriate flea control plan based on the severity of the infestation and the needs of your pet, you, and your family.

To prevent fleas altogether, your veterinarian also can recommend the best product given your and your pet's circumstances. Some products made for dogs—including those containing permethrin—are toxic to cats, so never use a dog flea product for cats.

Because much of a flea's life cycle is spent somewhere other than on a pet, treating just your pet will provide only temporary relief. If you kill the adult fleas but not the eggs, larvae, and pupae, your pet will become reinfested when these early-stage fleas become adults, and the cycle will start all over again. Carpets provide protection for developing fleas. Therefore, you will need to regularly clean your pet's living area to remove and kill early-stage fleas. This means thoroughly cleaning your pet's sleeping quarters and vacuuming/cleaning floors and furniture where your pet hangs out.

You may be advised to treat your house with flea-killing products. Ask your veterinarian which products are effective and safe for use around pets and children. With moderate or severe flea infestations, you may also be advised to treat your yard. Your veterinarian can recommend an appropriate course of action and suggest ways to prevent future flea infestations.

Never use a dog flea or tick product for cats because the results could be deadly.

TICKS: WHAT ARE THEY AND HOW ARE THEY SPREAD?

Ticks are commonly found in wooded or grassy areas, brush, shrubs, and wild undergrowth. Any animal (or person) that enters these environments is at risk of catching ticks. This risk may be seasonal or year-round, depending on where you live.

Like fleas, ticks bite and eat blood. Immature ticks often feed on small, wild animals like rodents and birds. Adult ticks seek larger hosts like dogs and cats. Many different species of ticks can affect dogs and cats. The geographic regions where each species can be found varies and is constantly changing.

Disease and diagnosis

In dogs, ticks are most often found around the neck, in the ears, in the folds between the legs and the body, and between the

toes. However, they can be found anywhere on the body. They're usually easy to see or feel, with most tick species swelling up to more than double their size as they eat more blood. Cats may have ticks on their neck or face.

Tick bites can cause skin irritation in pets, and heavy infestations can cause anemia from blood loss. An adult female tick can eat up to 100 times her weight in blood! Ticks also can spread serious infectious diseases (including Lyme disease, Rocky Mountain Spotted Fever, and others) to pets and people. Disease risk varies by geographic region and tick species. Plus, certain species produce a toxin that can cause pets to become paralyzed.

Treatment and control

To lessen the chance of your pet becoming sick from tick bites, it's important to promptly and properly remove ticks:

- Carefully use tweezers to firmly grip the tick as close to the animal's skin as possible.
- Then, gently and steadily pull the tick free without twisting or crushing it.
- Once the tick is free, crush it while avoiding contact with tick fluids that can carry disease.

Be careful to avoid crushing, twisting, or jerking the tick out of the skin while its head is still buried. This could cause the tick's mouth parts to remain stuck in your pet's skin, leading to a skin reaction or infection. Also avoid smothering a still-attached tick with alcohol or petroleum jelly, or applying a hot match to it. This may cause the tick to inject saliva into the wound, increasing the risk of disease transmission.

You can help protect your pet from ticks by using an appropriate preventive product. Your veterinarian can recommend a product best suited to your pet's needs. For further protection:

- Examine your pet for ticks immediately after returning home from any tick-prone areas (such as after camping, hiking, or hunting), and carefully remove any ticks found.
- Make your yard unfriendly to ticks by mowing grasses, trimming bushes, and removing brush.
- Perform daily "tick checks" of all pets and people in your home during high-risk seasons.
- If you do find ticks on your pet, remember to check yourself and your family for ticks, too!

EAR MITES: WHAT ARE THEY AND HOW ARE THEY SPREAD?

Ear mites are common in young or stray cats, and can also affect dogs. These highly contagious parasites are tiny, invisible to the naked eye. They generally can be found within the ear canal and surrounding area. Your pet can pick up ear mites by close contact with an infested animal or its bedding.

Disease and diagnosis

Ear mites can be extremely irritating. Signs of infestation include excessive head shaking and ear scratching. Your pet may scratch to the point that they develop hair loss and bleeding sores around the ears. Excessive scratching can also break blood vessels in the earflap, causing a large blood blister that may require surgery. A brown or black ear discharge is common with ear mite infestations, and infections with bacteria or yeast can occur. To confirm whether mites are present, your veterinarian will collect an ear swab and examine the contents under a microscope.

Treatment and control

If your pet has ear mites, your veterinarian will recommend a thorough ear cleaning, followed by medication to kill the mites. Different types of medications are available to treat and/or prevent ear mite infestations, and some of these are also effective against other parasites. Your veterinarian can recommend an effective treatment and/or prevention plan tailored to your and your pet's needs.

SARCOPTIC MANGE MITES: WHAT ARE THEY AND HOW ARE THEY SPREAD?

Sarcoptic mange mites cause sarcoptic mange, also known as scabies. These microscopic mites mostly affect dogs rather than cats. In cats, scabies is rare and usually caused by different (notoedric) mange mites. All ages and sizes of dogs can catch sarcoptic mange, at any time of year. The mites are highly contagious to other dogs, and may be spread by close contact with infested animals, bedding, or grooming tools.

Disease and diagnosis

Sarcoptic mange mites burrow through the top layer of a dog's skin, causing intense itching. Signs include constant scratching and chewing at the skin, hair loss, and thickened