

physician. Sarcoptic mange is usually confirmed by taking a skin scraping and examining it under a microscope.

#### 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 treatment of the dog's environment is also necessary.

### DEMODECTIC MANGE MITES

#### Mite Basics

Demodectic mange caused by demodectic mange mites is mainly a problem in dogs. Demodectic mange mites are microscopic and not highly contagious. In general, demodex mites are not spread to other animals or across species. A mother dog, however, may pass the mites to her puppies.

#### Diagnosis, Risks and Consequences

Localized demodectic mange tends to appear in young dogs (usually less than 6 months old) as patches of scaly skin and redness around the eyes and mouth and, perhaps, the legs and trunk. Itching is not common with this type of mite infestation unless a secondary infection has occurred. Unlike other types of mange, demodectic mange may signal an underlying medical condition, and your pet's overall health should be carefully evaluated. Less commonly, young and old dogs experience a more severe form of demodectic mange (generalized demodectic mange) and can exhibit widespread patches of redness, hair loss, and scaly, thickened skin. Dogs with demodectic mange can develop secondary bacterial infections which require additional treatment.

Cats are rarely infected with demodex mites, and the cat demodex mite is not the same as the dog demodex mite. Affected cats develop hair loss, crusts and scaly skin around the face, neck and eyelids, and may excessively groom the areas. They may also be more itchy than dogs affected by demodex.

Demodectic mange is usually confirmed by taking a skin scraping and examining it under a microscope.

#### Treatment and Control

Your veterinarian will discuss treatment options with you. Treatment of dogs with localized demodectic mange generally results in favorable outcomes. Generalized demodectic mange is more difficult to treat, and aggressive, extended treatment may be necessary.

#### IMPORTANT POINTS

- 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 his/her coat, or persistently shakes his/her head or scratches his/her ears.
- Prompt treatment of parasites lessens your pet's discomfort, decreases the chances of disease transmission, and may reduce the degree of home infestation.
- 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. Consult your veterinarian before beginning treatment.
- Tell your veterinarian if you have attempted any parasite remedies, as this may impact your veterinarian's recommendation.
- Always follow label directions carefully when using flea and tick preventives.
- Be especially careful when applying insecticides to cats, as cats are particularly sensitive to these products. **Never use a product that is not approved for cats because the results could be lethal.**
- Leave treatment to the experts. Your veterinarian offers technical expertise and can assist you in identifying products that are most likely to effectively and safely control your pet's parasite problem.

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# EXTERNAL PARASITES

*Brought to you by your veterinarian and the American Veterinary Medical Association*



# AT SOME POINT IN THEIR LIVES,

many pets experience discomfort caused by external parasites such as fleas, ticks, or mites on their skin or in their ears. These parasites can be extremely irritating to pets and can cause serious skin problems or even carry disease. Modern medicines make treatment, control, and prevention of many external parasites much easier than in the past.

## FLEAS

### Flea Basics

Fleas thrive when the weather is warm and humid. Depending on your climate, fleas may be a seasonal or year-round problem. Your pet can pick up fleas wherever an infestation exists, often in areas frequented by other cats and dogs. Adult fleas are dark brown, no bigger than a sesame seed, and able to move rapidly over your pet's skin.

Once the flea becomes an adult, it spends virtually all of its time on your pet. Female fleas begin laying eggs within 24 hours of selecting your pet as a host, producing up to 50 eggs each day. These eggs fall from your pet onto the floor or furniture, including your pet's bed, or onto any other indoor or outdoor area where your pet happens to go. Tiny, worm-like larvae hatch from the eggs and burrow into carpets, under furniture, or into soil before spinning a cocoon. The cocooned flea pupae can lie dormant (inactive) for weeks before emerging as adults that are ready to infest (or reinfest) your pet. The result is a flea life cycle of anywhere from 12 days to 6 months, depending on environmental factors such as temperature and humidity.

### Diagnosis, Risks and Consequences

You may not know that your pet has fleas until their number increases to the point that your pet is obviously uncomfortable. 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 a pet with fleas is "flea dirt"—the black flea droppings left on your pet's coat. You may not actually see the fleas themselves, but they can still be on your pet and in the environment.

Fleas bite animals and suck their blood; young or small pets with heavy flea infestations may become anemic. Some pets can develop an allergy to flea saliva that may result in more severe irritation and scratching; these pets can become severely itchy from just one or two flea bites. Also, pets can

become infected with certain types of tapeworms if they ingest fleas carrying tapeworm eggs (a pet using its teeth to scratch the flea bites often eats the fleas). In areas with moderate to severe flea infestations, people may also be bitten by fleas. While fleas are capable of transmitting several infectious diseases to pets and people, this is rare.

### Treatment and Control

Your veterinarian will recommend an appropriate flea control plan for your pet based on your needs, your pet's needs and the severity of the flea infestation.

Pets at risk for fleas should be treated during the flea season with an appropriate preventive. Your veterinarian can recommend a product most suitable for your pet.

Because much of the flea's life cycle is spent off of your pet, treating only your pet will not eliminate the problem. If you kill the adult fleas and do not kill the eggs, larvae and pupae, your pet will become reinfested when these fleas become adults and the cycle will start all over again. Therefore, in addition to treating your pet, reduce the flea population in your house by thoroughly cleaning your pet's sleeping quarters and vacuuming floors and furniture that your pet comes in contact with frequently. Careful and regular vacuuming/cleaning of the pet's living area helps to remove and kill flea eggs, larvae, and pupae.

You may be advised to treat your house with insecticides to kill the fleas; consult with your veterinarian about products safe for use around pets and children. Flea larvae are more resistant than adult fleas to insecticides. With moderate and 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.

## TICKS

### Tick Basics

Ticks are commonly found in wooded areas, brush, shrubs and wild undergrowth, and any animal (or human, for that matter) that

enters these environments is at risk of becoming a tick's host. Immature ticks often feed on small, wild animals found in forests, prairies, and brush. Adult ticks seek larger hosts like dogs and cats which venture into these habitats. Tick exposure may be seasonal, depending on geographic location. There are many different species of ticks that can affect dogs and cats.

### Diagnosis, Risks and Consequences

Ticks are most often found around your dog's neck, in the ears, in the folds between the legs and the body, and between the toes, but they can be found anywhere on the body and are usually easily seen or felt. Cats may have ticks on their neck or face. Tick bites can cause skin irritation and heavy infestations can cause anemia in pets. An adult female tick can ingest up to 100 times her weight in blood! Ticks are capable of spreading serious infectious diseases (such as Lyme disease, Rocky Mountain Spotted Fever, and others) to the pets and the people on which they feed. They can also cause tick paralysis. Disease risk varies by geographic area and tick species.

### Treatment and Control

Prompt removal of ticks is very important because it lessens the chance of disease transmission from the tick to your pet. Remove ticks by carefully using tweezers to firmly grip the tick as close to the pet's skin as possible and gently and steadily pulling the tick free without twisting it or crushing the tick during removal. Crushing, twisting or jerking the tick out of the skin while its head is still buried could result in leaving the tick's mouth parts in your pet's skin; this can cause a reaction and may become infected. After removing the tick, crush it while avoiding contact with tick fluids that can carry disease. Do not attempt to smother the tick with alcohol or petroleum jelly, or apply a hot match to it, as this may cause the tick to regurgitate saliva into the wound and increase the risk of disease if the tick is infected.

Pets at risk for ticks should be treated during the tick season with an appropriate preventive. Your veterinarian can recommend a product best suited to your pet's needs. Owners who take their pets to tick-prone areas during camping, sporting, or hiking trips should examine their pets for ticks immediately upon returning home and remove them from their pets. If your pet picks up ticks in your backyard, trimming bushes and removing brush may reduce your pet's exposure and risk of infestation. And, if you find ticks on your pet, don't forget to check yourself for ticks, too!

## EAR MITES

### Mite Basics

Ear mites are common in young cats and dogs, and generally confine themselves to the ears and surrounding area. Mites are tiny and individual mites may be seen only with the aid of a microscope. Your pet can pick up ear mites by close contact with an infested pet or its bedding.

### Diagnosis, Risks and Consequences

Ear mites can cause intense irritation of the ear canal. Signs of ear mite infestation include excessive head shaking and scratching of the ears. Your pet may scratch to the point that he/she creates bleeding sores around his/her ears. Excessive scratching can also cause breakage of blood vessels in the earflap, causing the formation of a pocket of blood (an aural hematoma) that may require surgery. A brown or black ear discharge is common with ear mite infections, and secondary infections with bacteria or yeast can occur. A swab of the discharge is usually examined under a microscope to confirm the presence of ear mites.

### Treatment and Control

Treatment of ear mites involves thorough ear cleaning and medication. Your veterinarian can recommend an effective treatment plan.

## SARCOPTIC MANGE MITES

### Mite Basics

Microscopic sarcoptic mange mites cause sarcoptic mange, also known as scabies. Sarcoptic mange can affect dogs of all ages and sizes, during any time of the year. Sarcoptic mange mites are highly contagious to other dogs and may be passed by close contact with infested animals, bedding, or grooming tools.

### Diagnosis, Risks and Consequences

Sarcoptic mange mites burrow through the top layer of the dog's skin and cause intense itching. Clinical signs include generalized hair loss, a skin rash, and crusting. Skin infections may develop secondary to the intense irritation. People who come in close contact with an affected dog may develop a skin rash and should see their