

CFC protocol for lice found on a dog in clinic

General information about lice:

A) What do lice look like, where do they live, and what are the signs of lice on a dog:



Appearance of lice on dog skin (1)



Dog louse (1)

Lice are small, flat, wingless, six-legged insects that live in the hair and feathers of mammals and birds. Strong hook-like claws at the end of each leg allow them to hang onto the animal's hair shafts. The claws are tailored to the specific size of the host's hair shaft or feathers, which is why lice are species-specific. Therefore, dog lice won't affect you, and vice versa. Lice survive on skin debris, sebaceous secretions, feathers, or the blood of the host animal. They are able to hang on tightly enough that even vigorous scratching and biting will not dislodge them. (2, 3, 4)

There are two types of lice:

1. Chewing lice: survive by eating skin debris and surface secretions and are characterized by a blunt, flat head. There are two species of chewing lice that affect dogs and wild canids—Trichodectes canis and Heterodoxus spiniger. H. spiniger is found mostly in tropical regions. (2, 4, 5)

1. Sucking lice: need blood to survive. The species of sucking lice that affects dogs is called Linognathus setosus. Unlike the chewing lice, these have a sharp pointed mouthpiece. (2, 5)

B) What are the signs of lice infestation in your dog:

The first sign of lice that most people notice is the scratching. Suddenly the dog is intensely itchy. Upon close inspection, you might see some small, tan to medium brown colored critters down near the skin. Chewing lice may be found in larger numbers near body openings or skin abrasions where they are seeking moisture,

whereas sucking lice are found primarily on the neck and shoulders, especially under a collar. You can tell lice from fleas by the color (fleas are quite dark) and the speed (lice are quite sluggish movers, while fleas usually zoom out of sight before you are really sure you saw anything). (3, 5) You might also notice the nits on the hairs, although they are quite difficult to see with the naked eye. The empty shells look most like little bits of dandruff or dead skin. One way to tell is to use a flea comb to collect hair from the area you are suspicious of. If you can shake the hair and the 'flakes' fall off onto the countertop, it's just dandruff or debris. If the 'flakes' stick tight to the hair, they may be nits. Usual signs of louse infestation are irritation and damage caused by the host such as rubbing, scratching, loss of sleep, biting of infested areas, and general misery. Heavy infestations may cause severe pruritus, restlessness, intense scratching, a ruffled or rough matted coat and sometimes alopecia. The bites of *H. spiniger* typically inflict only minor discomfort to the host, unless present in large numbers. In severe infestations, animals can become anemic due to blood loss; this is generally only seen in young puppies or kittens. Both types of lice can carry tapeworms, which can infest both domestic dogs and humans who accidentally swallow lice after petting their dogs. Therefore, infested dogs should be treated for tapeworms once the lice are under control. Lice rarely transmit other diseases. (3, 4, 5)

C) What is the life cycle of a louse:

Unlike fleas, lice live out their entire life cycle on the animal. Adult female lice lay eggs, gluing them tightly to the hair shafts often quite close to the skin. The eggs are referred to as "nits". Nymphs then hatch from the eggs. These nymphs look the same as adults to the naked eye; they are just smaller versions. They molt several times and become adults. Lice develop rather quickly, with the entire process from egg to adult taking 2-4 weeks. (3, 4)

D) Removing fleas from dog at home and avoiding spreading infestation to other places:

To start, treatment in severe infestations involves clipping matted hair off the dog because lice and eggs will likely be attached to that hair and hard to dislodge. You can also use flea combs to remove live and dead lice on the rest of the coat. (6) Treatment of lice is relatively straightforward. Many insecticides kill lice. Most flea

shampoos contain pyrethrins or organophosphates and do a good job of getting rid of louse infestations. Topical insecticides like imidacloprid (Advantage) applied topically every 2 weeks will also kill lice. Selamectin (Revolution), while not labeled specifically for lice, may also be effective. Permethrins (different from pyrethrins) are also effective insecticides, but due to the high toxicity to cats, they are rarely recommended for dogs with cats in the home. In terms of treating lice infestations effectively, keep two things in mind. First, that nothing will "kill" the eggs. No insecticides will penetrate the shell of the egg and zap the growing nymph. And second, most insecticides (there are some exceptions) don't last very long on the dog's coat and skin. (3, 6)

If you bathe the dog once, or apply one treatment of Revolution, you will kill the adults and nymphs. In a week or two, though, the nits will hatch and you will have a whole new generation of lice. Unless you have used a persistent insecticide (like Advantage) there is nothing left on the dog to kill this new generation. So, in order to get rid of the lice on your dog effectively and permanently, you will need to reapply insecticide on a routine basis for at least 4 weeks. All animals in the household should be treated whether you have seen lice on them or not. Any of the following should be effective at ridding your poor beleaguered pet of lice. There is no need to use more than one kind of treatment. (3, 6)

1. Advantage or Advantage Multi topical, as recommended by your veterinarian. It is often advised to apply Advantage every 2 weeks for a total of 3 treatments. That is, applied when the problem is first seen, then again 2 weeks later, and 2 weeks after that. The label on Advantage calls for re-application every 4 weeks. The problem with this is that Advantage does tend to wear off and become less potent over that 4 week period. It is safe to re-apply it after 2 weeks, and you will be keeping the concentration of Advantage nice and high in order to zap the newly hatched lice as soon as they emerge. (3)
2. Insecticidal shampoos once a week for 4-6 weeks. A good flea shampoo containing pyrethrins or organophosphates will work very well. Make sure that you follow the directions on the label regarding contact times. Most insecticides should be left on the coat for a 5-10 minute period in order for them to kill the lice. Each product will state on the label how long to leave the shampoo before rinsing it off. If you rinse too soon it will not be as effective. (3)
3. Revolution, applied every 2 weeks for 3 treatments. (3)

4. Lime-sulfur dips can be used if you do not want to use insecticides. Lime-sulfur dips are extremely safe, non-toxic to pets (sometimes used on tiny kittens to treat ringworm) and very effective. They have the disadvantage of staining the coat yellow (temporarily) and having a somewhat objectionable odor (sulfur). They should be repeated weekly for 4-6 weeks. (3, 6)

5. Flea combs will help to remove both living and dead lice. Clean the comb afterward by immersing it in a container of water with some flea shampoo or other insecticide and letting it sit for at least 10 minutes or longer. (3, 6)

6. Quarantine your dog: during treatment for lice your pets should be kept away from situations where they will be in contact with other dogs. They can go to the parks and for walks, but they should not play with other dogs until at least 4 weeks after a full cycle of treatment have passed. They should especially not go to dog daycare or other high contact places. (3, 6)

E) Removing lice from home: wash all bedding in hot water. Disposing of all combs and brushes or other grooming equipment is best, as they may have nits stuck to them that will be hard to see them and to remove them. Everything else from doggie sweaters and other clothing to leashes, collars, crates, floors, upholstery and car seats that your pet is in contact should also be washed in hot water. (3, 5, 6)

F) What to do if lice are found on a dog in clinic:

1. Remove dog from clinic. Immediately after a louse is discovered on a dog's skin, the client should be politely informed that we have a protocol in place to contain a potential lice infestation that requires the potentially infected dog to be removed from the clinic immediately. Also inform the client that we can provide them with information regarding diagnosis/ treatment / control of lice infestation in their dog and home.

2. Remove and wash blanket. Once the dog is removed from our premises, the blanket where the dog was laying should be gathered in a bunch and placed directly into the washer and washed immediately OR placed in a plastic bag immediately or, setting the water temperature at the hottest possible setting, or 'Sanitize' in our current washer. If the washer is in use and not immediately available, keep the blanket in the plastic bag until the washer becomes available

and proceed with washing the blanket as described above. Set the clothes dryer also in the hottest possible setting and proceed to dry the blanket. The blanket should be washed and dried along with the clothes of any staff that would have become in contact to the infested dog.

3. Change clothes. Anyone that has been in contact with the dog should change their clothes and place the exposed clothes directly into the washer or in the plastic bag containing the blanket. Proceed to wash as described above.
4. Vacuum the room thoroughly. Once the dog and the blanket have been removed, vacuum the floor in the entire room VERY thoroughly, making sure to get under the chairs, desk, bench, etc. Empty the vacuum cleaner into a plastic bag and dispose of it directly into the outside dumpster.
5. Provide information to the owner. Once the owner and dog have left the premises, provide owner with written information (see file) as to how to proceed to exterminate lice at home and recommend to seek veterinary advise.

References:

- 1- [dog lice pictures - Google Search](#)
- 2- <https://www.akc.org/expert-advice/health/can-dogs-get-lice/>
- 3- <https://www.vet.bc.ca/lice.pml>
- 4- https://animaldiversity.org/accounts/Heterodoxus_spiniger/
- 5- <https://capcvet.org/guidelines/lice/>
- 6- <https://www.akc.org/expert-advice/health/can-dogs-get-lice/#:~:text=Many%20insecticides%20are%20effective%20treatments,on%20dogs%20with%20good%20effect>