GREYHOUND RACING VICTORIA

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Veterinary Fact Sheet

Frequently Asked Questions - External Parasites

1. What are some of the known external parasites that affect greyhounds?

External parasites, or ectoparasites, are common contagious diseases in the greyhound industry. High-density housing, inconsistent property pesticide management and irregular use of preventatives are risk factors for disease.

Some known ectoparasites in greyhounds include:

I. Fleas - the most commonly diagnosed ectoparasite in greyhounds
II. Mites (causes 'mange') - including Demodex, Sarcoptes (scabies) and Otodectes (ear mites)
III. Lice
IV. Flies
V. Ticks - including Brown Dog Tick and Paralysis Tick

See **Table 1** for further details on each of these parasites, including clinical signs and distribution.

2. How do we prevent greyhounds from being affected by external parasites?

Prevention may be achieved through regular use of ectoparasite preventatives in all greyhounds and pets on the property. Establishments should also maintain a regular pesticide management program, using commercially available pesticides and larvicides, to help prevent parasitic infection.

For example, the typical recommended schedule for canine flea control is:

- From 8 weeks of age: apply a spot-on product every month for life.
- Note: Products may vary in their frequency of administration. There are tablets available for flea control. Some products will also treat for intestinal worms and heartworm.

See **Table 2** for details of commercially available canine ectoparasite preventative products, including frequency of administration and minimum requirements.

3. Can we use 'off-label' products to control ectoparasites?

'Off-label' in this context refers to the practice of using a registered veterinary chemical in a manner outside the range of uses permitted by the approved label directions (e.g. different species, duration, dosage and frequency of use) or using a human drug.

The off-label use can only be done upon recommendation of a qualified veterinarian, however, GRV veterinarians do not generally support the off-label use on greyhounds as there is no guarantee that the product will work and/or be safe outside of its intended use.

4. What should I do if I have identified a heavy flea burden in my greyhound?

Understanding the flea life cycle is important to adopting successful control measures. Fleas will lay eggs within 36 hours of a blood meal, laying 60-100 eggs per day, which drop to the ground and hatch into larvae. Larvae will often burrow in bedding until they develop into adults. This process can take between 3 and 12 weeks. It is therefore necessary to treat both animal hosts and the environment to eliminate a flea infestation.

In heavily invested animals or properties, the following management options are recommended and should be considered:

I. Thoroughly assess every greyhound in the kennel for signs of fleas – check for live adult fleas and flea dirt. Fleas can most often be found on the inner thighs, the belly and the lower back around the base of the tail. Carefully check neighboring greyhounds if you find fleas on one of your animals. Adjacent greyhounds should also be treated for fleas.
II. Administer orally a flea knockdown medication such as Capstar™ – these products are very effective oral flea agents which work within 30 minutes to kill adult fleas. They do not however have a persistent effect or act on immature flea larvae.
III. Wash the greyhound/s thoroughly. You can use a topical flea shampoo but be aware there are many products on the market which are not very effective. Washing greyhounds will help to physically remove adult fleas and flea dirt to ensure the animal is clean and fit to be presented to the track. Washing alone is unlikely to manage the underlying infestation.
IV. Spot-on products usually have a persistent activity and can be used in combination with knockdown products such as Capstar™.
V. Remove all bedding material from all flea-affected greyhound's kennel/s and wash thoroughly in hot water or change.
VI. Vacuum thoroughly the kennel/s paying close attention to the sleeping area.
VII. If more than a couple of greyhounds are affected from the same kennel block, it is a good idea to consider using a flea-bomb to address the flea population within the environment.

5. What happens when the on-track veterinarian has identified signs of an ectoparasite infestation (e.g. live adult fleas or flea-dirt)?

It is important that participants assess their greyhounds for signs of fleas or other ectoparasites prior to arrival at the track. If the on-track veterinarian diagnoses a flea infestation during the kennelling or pre-race examination at a race meeting, the greyhound will be scratched from the race, removed from the kennels, and a veterinary certificate will be issued with a request for the greyhound to be cleared by an off-track veterinarian. As per GAR 37 (4), the off-track veterinarian will need to provide a certificate to confirm the greyhound is healthy, no longer infested and clear to race again.

6. What are other strategies for preventing ectoparasite infection or outbreaks?

The strategies for preventing ectoparasitic infection are similar to those for preventing other infectious disease outbreaks. There are three general components required to establish an effective strategy:

I. **Minimise the risk of disease from the introduced greyhound:**

All greyhounds newly introduced onto a property will need to be assessed for risk of developing and/or transmitting infectious diseases. This is ideally performed by a veterinarian, but a suitably experienced trainer can assess for signs of ectoparasites, such as the presence of live adult fleas or flea dirt and seek veterinary advice if uncertain.

Parasiticides should be administered to all newly introduced greyhounds upon entry. These greyhounds should be quarantined, or housed separately, from the main population for 7-14 days to monitor for the development of any signs of disease that may have been incubating at the time of arrival. Newly introduced greyhounds as well as pups and juveniles should be housed in clean kennels. This means that the kennel has been thoroughly disinfected or kept free from use for an extended period of time.

Stress levels are often high following travel and due to changes in the environment and routine, which can increase susceptibility to infection. Minimize stress to the immune system by avoiding any sudden dietary changes and promptly addressing any signs of pain, disease or discomfort. Regularly check your greyhound's weight to ensure that nutritional intake is adequate.

II. **Optimise the existing greyhound population's ability to resist disease:**

The existing greyhound population should be healthy. They should be up to date with their vaccinations and parasite treatment, and have been promptly managed and/or treated for any signs of pain, discomfort or disease.

Greyhounds that are unwell should be isolated and housed separately from the healthy population. Biosecurity principles should be applied to prevent spread of disease. Only once fully recovered, should previously unwell greyhounds be re-introduced into the main population.

Kennels housing infected greyhounds should be thoroughly cleaned and disinfected.

III. **Decrease the pathogen's ability to transmit via the environment:**

Controlling the following five common modes of transmission will help to reduce the risk of disease transmission:

i. Minimise direct contact between greyhounds, by means of a physical barrier. This is especially important in greyhounds exhibiting signs of disease: these animals should be isolated.

ii. Minimise indirect transmission by humans. This includes frequent hand washing or changing disposable gloves between greyhounds. Attend healthy greyhounds before sick greyhounds or have separate kennel staff handle sick greyhounds. Be aware that indirect transmission can also occur through other animals (e.g. pets).

iii. Minimise indirect transmission through fomites (objects or materials that can carry infection). Avoid sharing personal items or spaces, including bedding, bowls and kennels. While it may be hard to avoid sharing certain training areas or outside pens, it is important to ensure only greyhounds of similar health status share these areas. Unavoidable shared spaces such as walkways should be adequately and appropriately cleaned of gross debris and disinfected with a veterinary or hospital-grade disinfectant daily. Adding new topsoil to exercise/toilet yards that infected greyhounds have used can help to reduce the risk of disease transmission.

iv. Ensure adequate ventilation (e.g. appropriate exhaust) to remove droplets or dust which can remain suspended in the air and transmit disease.

v. Control vector transmission i.e. transmission by rats, fleas, mosquitoes and other insects, through appropriate pest control.

If you are having difficulties controlling for parasites, your veterinarian can help you to develop a more rigorous treatment and preventative regime and discuss possible resistance to commonly used products.

Definitions

1. **Zoonotic** refers to an infection or disease that is transmissible between animals and humans.

2. **Inflamed** refers to a normal body response to injury or disease that is marked by redness, heat and discomfort.

3. **Anaemia** refers to a condition in which the blood is deficient in red blood cells.

4. **Paralysis** refers to a complete or partial loss of motor and sensory function. This includes loss of the ability to move and/or feel.

5. **Distribution** refers to the location on the body of the greyhound.

Table 1: Ectoparasites

External Parasites			
#	NAME (Common)		
1	**Fleas**	SCIENTIFIC NAME	*Ctenocephalides* spp.
		SPECIES AFFECTED	Warm-blooded animals
		ZOONOTIC POTENTIAL	Yes
		CLINICAL SIGNS	Inflamed skin, scratching, and anaemia (heavy burden)
		DISTRIBUTION	Ears, Neck, Length of Back, Base of Tail
		COMMENTS	If fleas or flea dirt are observed on a racing greyhound during a veterinary examination at a race meeting, then under R37 (4) the greyhound is scratched, must not be brought into kennels and will not be allowed to compete until a veterinary clearance certificate has been provided to GRV.
#	NAME (Common)		
2	**Demodectic Mange/Mites**	SCIENTIFIC NAME	*Demodex canis*
		SPECIES AFFECTED	Dogs
		ZOONOTIC POTENTIAL	No
		CLINICAL SIGNS	Hair loss, Itching, Scaling, Skin Infection
		DISTRIBUTION	Generalised
		COMMENTS	
#	NAME (Common)		
3	**Scabies/ Sarcoptic Mange**	SCIENTIFIC NAME	*Sarcoptes scabiei*
		SPECIES AFFECTED	Warm-blooded animals
		ZOONOTIC POTENTIAL	Yes
		CLINICAL SIGNS	Hair loss, Intense Itching, Scaling
		DISTRIBUTION	Initially on the underside of the body, ears and elbows; then generalised
		COMMENTS	Highly contagious

#	NAME (Common)		
4	**Ear Mites**	SCIENTIFIC NAME	*Otodectes cynotis*
		SPECIES AFFECTED	Dogs and Cats
		ZOONOTIC POTENTIAL	Yes, but rare
		CLINICAL SIGNS	Ear Itching, hypersensitivity to touch especially around head
		DISTRIBUTION	Ears
		COMMENTS	
#	NAME (Common)		
5	**Lice**	SCIENTIFIC NAME	*Trichodectes canis*
		SPECIES AFFECTED	Dogs
		ZOONOTIC POTENTIAL	No
		CLINICAL SIGNS	Itching, Inflamed Skin, Anaemia (Heavy Burden)
		DISTRIBUTION	Generalised
		COMMENTS	
#	NAME (Common)		
6	**Fly bite/strike**	SCIENTIFIC NAME	Multiple species.
		SPECIES AFFECTED	Warm-blooded animals
		ZOONOTIC POTENTIAL	Yes
		CLINICAL SIGNS	Itching, Inflamed Skin
		DISTRIBUTION	Ears, Face
		COMMENTS	

#	NAME (Common)		
7	**Brown Dog Tick**	SCIENTIFIC NAME	*Rhipicephalus sanguineus*
		SPECIES AFFECTED	Warm-blooded animals
		ZOONOTIC POTENTIAL	Yes
		CLINICAL SIGNS	Irritation, blood loss
		DISTRIBUTION	Generalised
		COMMENTS	
#	NAME (Common)		
7	**Paralysis Tick**	SCIENTIFIC NAME	*Ixodus holocyclus*
		SPECIES AFFECTED	Warm-blooded animals
		ZOONOTIC POTENTIAL	Yes
		CLINICAL SIGNS	Change in bark, weakness in back legs, general weakness, paralysis, breathing difficulty
		DISTRIBUTION	Generalised
		COMMENTS	The greyhound should always be checked for paralysis ticks if any of the above clinical signs are noted in or after travelling to known tick paralysis regions. Veterinary attention should be sought in instances where a tick has been found. Bringing the tick to the veterinarian can aid in species identification.

Table 2: Common Treatment and/or Preventative Products

Oral/Systemic Products			
	NAME (COMPANY)		
1	**Bravecto (Intervet)**	ACTIVE INGREDIENT	Fluralaner
		TYPE	Chewable tablet
		MINIMUM AGE	Dogs (from 6 months and over 2 kilograms)
		FREQUENCY	Fleas and ticks: 12 weeks
		EFFECTS	Fleas: 98% kill within 12 hours, 100% kill within 48 hours; Brown dog tick: 100% kill within 48 hours.
		COMMENTS	
	NAME (COMPANY)		
2	**Capstar (Elanco)**	ACTIVE INGREDIENT	Nitenpyram
		TYPE	Tablet
		MINIMUM AGE	Dogs and puppies (from 4 weeks and over 1 kilograms)
		FREQUENCY	As needed, up to once per day
		EFFECTS	Fleas: begins to kill fleas within 30 minutes; >90% kill within 4 hours
		COMMENTS	Occasionally, dog will start scratching or excessively grooming as fleas begin to die. The scratching behaviour is temporary and is a reaction to the fleas, not the drug. This may appear as temporary signs of hyperactivity, panting, vocalisation and excessive grooming/licking. May be used together with other products, including heartworm preventives, corticosteroids, antibiotics, vaccines, de-worming medications, shampoos and other flea products. Does not provide lasting prevention from further infestation.
	NAME (COMPANY)		
3	**Comfortis (Elanco)**	ACTIVE INGREDIENT	Spinosad
		TYPE	Chewable tablet
		MINIMUM AGE	Dogs (from 14 weeks and over 1.5 kilograms)
		FREQUENCY	Monthly
		EFFECTS	Fleas: begins to kill fleas within 30 minutes: 98% effectiveness within 4 hours; 100% effectiveness on first day of application
		COMMENTS	Administer with food for maximum effectiveness. If vomiting occurs within one hour of administration, administer another full dose.

	NAME (COMPANY)		
4	**Nexgard (Merial)**	ACTIVE INGREDIENT	Afoxolaner
		TYPE	Chewable tablet
		MINIMUM AGE	Dogs (from 8 weeks and over 1.8 kilograms)
		FREQUENCY	Monthly
		EFFECTS	Kills fleas; brown dog tick
		COMMENTS	Safety for use in breeding, pregnant or lactating dogs has not been established. Use with caution in dogs with a history of seizures.
	NAME (COMPANY)		
5	**Sentinel Spectrum (Virbac)**	ACTIVE INGREDIENT	Lufenuron, Milbemycin, Praziquantel
		TYPE	Chewable tablet
		MINIMUM AGE	Dogs (from 6 weeks and over 1 kilogram)
		FREQUENCY	Monthly
		EFFECTS	Fleas; prevention of heartworm disease; control of hookworms, roundworms, whipworms, and tapeworms.
		COMMENTS	Does not kill adult fleas; breaks the flea life cycle at the egg stage to prevent eggs from developing into adults. Pre-existing immature fleas in the environment may continue to develop and emerge after treatment. Concurrent use of adulticidal insecticides may be used to control adult fleas.
	NAME (COMPANY)		
6	**Simparica (Zoetis)**	ACTIVE INGREDIENT	Sarolaner
		TYPE	Chewable tablet
		MINIMUM AGE	Dogs (from 6 months and over 1.3 kilograms)
		FREQUENCY	Monthly
		EFFECTS	Fleas: 100% kill by 24 hours. Lone star tick, Gulf coast tick, American dog tick, brown dog tick: 100% kill by 48 hours
		COMMENTS	May cause abnormal neurologic signs such as tremors, decreased conscious proprioception, ataxia, decreased or absent menace, and/or seizures. Safety for use has not been established in breeding, pregnant, or lactating bitches.

Topical Products			
	NAME (COMPANY)		
7	**Advantage (Bayer)**	ACTIVE INGREDIENT	Imidacloprid
		TYPE	Spot-on
		MINIMUM AGE	Dogs (from 7 weeks)
		FREQUENCY	Monthly; In case of severe flea infestation, retreatment may be necessary earlier than 4 weeks. Do not retreat more often than once every 7 days.
		EFFECTS	Kills fleas
		COMMENTS	Waterproof. Consult your veterinarian before using this product on debilitated, aged, pregnant and lactating animals or animals on other medications.
	NAME (COMPANY)		
8	**Bravecto (Intervet)**	ACTIVE INGREDIENT	Fluralaner
		TYPE	Spot-on
		MINIMUM AGE	Dogs and puppies (from 6 months and over 2 kilograms)
		FREQUENCY	Every 12 weeks, every 8 weeks for *Amblyomma americana* ticks
		EFFECTS	Kills fleas; kills American dog ticks, deer (black-legged) ticks, brown dog ticks, lone star ticks
		COMMENTS	Waterproof. For topical use only. Avoid oral ingestion. Use caution in dogs with a history of seizures. Seizures have been reported in dogs receiving fluralaner, even in dogs without a history of seizures.
	NAME (COMPANY)		
9	**Frontline Plus (Merial)**	ACTIVE INGREDIENT	Fipronil, Methoprene
		TYPE	Spot-on
		MINIMUM AGE	Dogs (from 6 weeks)
		FREQUENCY	Monthly (ticks, mosquitoes, flies, lice); 6 weeks (fleas)
		EFFECTS	Fleas: kills adults, larvae, eggs for up to 90 days; prevents all stages from maturing. Kills deer (black-legged) ticks (which may carry Lyme disease), brown dog ticks, American dog ticks, and lone star ticks. Eliminates chewing lice. Aids in control of sarcoptic mites.
		COMMENTS	Waterproof. Can be used on breeding, pregnant and lactating bitches.

	NAME (COMPANY)		
10	**K9 Advantix (Bayer)**	ACTIVE INGREDIENT	Imidacloprid, Permethrin
		TYPE	Spot-on
		MINIMUM AGE	Dogs (from 7 weeks, over 1.8 kilograms)
		FREQUENCY	Monthly
		EFFECTS	Kills fleas within 12 hours. Repels and kills deer (black-legged) ticks, American dog ticks, brown dog ticks and Lone star ticks. Repels and kills mosquitoes. Repels and prevents blood-feeding by biting flies. Kills lice.
		COMMENTS	Waterproof. Consult your veterinarian before using this product on debilitated, aged, pregnant or nursing animals or animals on medications. Harmful or fatal if applied to cats or if cats groom recently treated dogs.
	NAME (COMPANY)		
11	**Revolution (Zoetis)**	ACTIVE INGREDIENT	Selamectin
		TYPE	Spot-on
		MINIMUM AGE	Dogs (from 6 weeks)
		FREQUENCY	Monthly
		EFFECTS	Kills fleas for one month. Prevents heartworm disease. Kills and controls ear mites. Controls sarcoptic mites. Kills and controls American dog tick infestations.
		COMMENTS	Bathing or shampooing the animal 2 or more hours after treatment will not reduce effectiveness
	NAME (COMPANY)		
12	**Seresto (Bayer)**	ACTIVE INGREDIENT	Flumethrin, Imidacloprid
		TYPE	Collar
		MINIMUM AGE	Dogs (from 7 weeks)
		FREQUENCY	8 months
		EFFECTS	Kills fleas and ticks for up to 8 months, including deer (black-legged) ticks, American dog ticks, brown dog ticks, and lone star ticks. Kills fleas within 24 hours. Kills chewing lice for one month. Aids in control of sarcoptic mites. Dogs: Prevents tick infestations within 48 hours and kills/repels reinfesting ticks within 6 hours.
		COMMENTS	Water resistant; for animals that are bathed or swim > 1 per month, control duration is reduced to 5 months. Consult veterinarian before using this product on debilitated, aged, breeding, pregnant, or nursing animals.