Risk of infection from dog faeces
Briefing for Children's Services

Author: Dr Emma Robinson, Consultant in Public Health
Date: 29th September 2015

The spread of infections from dogs to humans can cause a variety of illnesses, ranging from minor skin infections to serious disease. Some of these are spread through ticks carried by dogs and others following dog bites. This briefing focuses on infections spread through dog faeces.

Diseases associated with dog faeces that can cause illness in humans are spread via worms and germs present in the faeces and on ground contaminated by faeces. Children are more susceptible to many of these infections due their age and vulnerability, but also because of their exposure through playing at ground level in parks, play grounds and gardens.

*Toxocara* is a larval infection that spreads from dogs to children. Studies in the United States of America have shown that 4-8% of children without symptoms are infected with *Toxocara*. In certain populations, this can be as high as 30%. Western European studies have shown similar prevalence studies – Netherlands 19%, Germany 2.5% and Spain between 0 and 37%.

In the UK, the number of reported cases is under 10 per year. However the infection is not notifiable and relies on voluntary reporting. In addition, *Toxocara* infection is often not diagnosed due to generalised symptoms or is asymptomatic.

For those children affected, they usually acquire the infection through direct contact with a dog, or from ground contaminated with dog faeces. *Toxocara* often results in the covert form of infection, which may go undetected due to mild non-specific symptoms (e.g. abdominal pains, fever, rash, and cough) or no symptoms. The dose of infective worm ingested along with the human response, determines the level of infestation and disease severity. Overall, systemic disease (known as visceral larva migrans) is diagnosed primarily in children, age 1-7 years, due to their play behaviour at ground level. Severe disease occurs rarely, affecting children aged 1-3 ½ years. If the larvae enter the child’s eye the infection can result in blindness and occurs more often in older children, adolescents and young adults. A review of several studies (meta-analysis) has shown that *Toxocara* infection is significantly higher in people with asthma suggesting a causal link. A different meta-analysis undertaken in 2012, found an association between *Toxocara* infection and epilepsy.

In Western Europe the prevalence of *Toxocara* in dogs is between 3.5% and 34%

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1 Pediatric Toxocarosis. 2015. Medscape.
2 Zoonoses Report UK 2013. February 2015. DEFRA and PHE.
3 Annals of Allergy, Asthma and Immunology. Asthma and Toxocarasis. (2014) Li L, Gao W., Yang X., Wu D., Bi H., Zhang S., Huang M., Yao X.
(highest in puppies). In 2013, a study in Bristol showed that dogs contribute the greatest output of *Toxocara* eggs in the environment, especially puppies. The study found that the contribution of dogs to the total output of eggs could be modified by the degree of access dogs had to public areas and when active faeces removal was being undertaken.  

Dog faeces can also be responsible for infectious diarrhoeal illness. In the UK, other parasites and germs found in dog faeces that can spread to humans include *Giardia, Cryptosporidium* and *Campylobacter*, all of which can be severe in very young children. In other parts of the world, especially in developing countries, there are many other infections transmitted through dog faeces to humans.

The main way of controlling infection is through prevention, including hygiene measures undertaken by pet owners and by eliminating contamination of areas where children play e.g. gardens, playgrounds, dedicated areas within parks. In 2010, Keep Britain Tidy ran a campaign called ‘There’s no such things as the dog poo fairy’. This campaign resulted in 90% reductions in dog fouling. Similar campaigns have been run elsewhere in the UK, with equally good results.  

Dog owners can protect themselves, their families and the community:

- Be responsible for clearing up and disposing of dogs’ faeces appropriately;
- Do not allow dogs into areas where children play.
- Ensure routine veterinary care for pets to check for infections, regular treatment for worms and also relevant immunisations;
- Always wash hands and the hands of children with running water and soap after contact with dogs, dog faeces and dog food;
- Bites and scratches are also a source of infection and should be cleaned thoroughly. If the bite has punctured the skin, then medical advice should be sought regarding the need for antibiotics and tetanus injection.

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5 Quantifying sources of environmental contamination with *Toxocara* spp. eggs. Morgan E.R. Veterinary parasitology 2013;193(4):390-.