Letter to the Editor

Dogs as possible mechanical carriers of *Toxoplasma*, and their fur as a source of infection of young children

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Only felines shed *Toxoplasma gondii* oocysts in their feces, and only they have been linked to fecal transmission of the infection.[1] After observing an association between antibodies to *Toxoplasma* in Panamanian children and dog contact,[2] we searched for how dogs might transmit the infection.

Table 1 shows data from surveys in the USA, and indicates that dogs frequently eat the feces of cats, and that they roll in cat feces and other smelly substances. The latter habit has been called scent rolling,[3] or, more broadly, xenosmophilia, liking foreign smells, and has been demonstrated experimentally even with (Enjoli) perfume.

Dogs could play a role in the fecal transmission of *Toxoplasma* because they have the olfactory capacity and the habit of seeking out and rolling in cat feces, contaminating their fur. Young children will often first pet a dog and notice its smell later, if at all, before putting their fingers in their mouth. The persistence of sporulated oocysts on the fur of dogs has not yet been studied, but they persist in dry bedding for at least 4 days and in moist bedding for 7 days.[4] Unsporulated oocysts on the fur of dogs died when the relative humidity varied between 40% and 100%.[5] Sporulation of *Toxoplasma* oocysts in cat feces takes place in 2–3 days.[6] Additional studies would be desirable, especially in the humid tropics.

In the interim, avoidance of dog contact should be added to the precautions to prevent *Toxoplasma* infection. Ever since the cycle of *Toxoplasma* has been clarified,[1] toxoplasmosis has become a preventable infection. Pregnant women, whose fetus is at risk, and immunocompromised patients, such as HIV-positive individuals, should avoid *Toxoplasma* infection, which is asymptomatic in the normal population.

Table 1. Owners observing coprophagy and rolling in feces (by questionnaires)

	A. Number of 52 dogs in veterinary practice in Santa Fe, NM[3]				*B. Percentage of student-owned dogs in Auburn, AL*[5]		
					Veterinary medical students		*Parasitology and zoology*
	Never	*Occasionally*	*Often*	*% yes*	*81 second year*	*30 freshmen*	*15 students*
Dogs eat feces of cats	29	14	9	44.2%	70	63.3	33.0
Dogs eat other feces	23	20	9	55.7%	76	83.3	66.0
Dogs roll in cat feces	40	8	4	23.1%	23	16.6	26.6
Dogs roll in other foul substances	27	18	7	48.1%	74	66.6	60.0

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