Infections that can be acquired from pets

Route and type of infection	Animal vector
Bites and scratches:	
Rabies	Dog, cat
<i>Capnocytophaga canimorsus</i>	Dog
<i>Pasteurella multocida</i>	Dog, cat
Bartonellosis (cat scratch fever)	Cat
Gastrointestinal:	
Campylobacter	Dog
Toxoplasmosis	Cat
<i>Toxocara canis</i>	Dog
Uncommon salmonella serotypes	Snake, terrapin
Skin infections:	
Dermatophytosis (ringworm)	Dog, cat
<i>Mycobacterium marinum</i>	Tropical fish
Airborne:	
Psittacosis	Birds

extraordinary.^{3 4} How this is done is uncertain, perhaps by an acute sense of smell or visual cues from the owner's behaviour and posture. Whether a dog that earns its living, by being an early warning system or guiding a blind person, is a "pet" is a question that can only be answered by the person with whom the animal lives: to be a pet, an animal should be valued for more than its utility.

On the opposite side of the debate are the infection hazards associated with pets (table). The hazards have been well described in a review by Guay.⁵ It is difficult to quantify the risk in relation to the popularity of pets, but the infections are either uncommon or uncommonly acquired from pets. The list could be lengthened to include cryptosporidiosis and

Escherichia coli O157 acquired from lambs and calves if they are treated as pets on farms. Although the incidence may be low, the infections should not be forgotten when recommending pets.

In assessing the risks of infection, the health of the animal should be considered. The probability that a pneumonic illness in a budgerigar owner is due to psittacosis increases when the patient says that a pet bird has recently died. Puppies with diarrhoea are more likely to be a source of campylobacter than a healthy house trained adult dog. Many people will accept the risks of gastrointestinal infection in exchange for the pleasure of watching a young animal at play, and for the bond between pet and owner that grows with time. Risks can be reduced by awareness and hygiene, but adopting a house trained adult pet is an alternative. For an older person worried that a young pet's life expectancy would be much longer than their own, a mature dog or cat adopted from an animal sanctuary can be a happy, and perhaps a health promoting, companion.

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An unusual zoonosis

As a general practitioner and pet owner, I treated my scratching Abyssinian guinea pigs' nits with subcutaneous ivermectin. A few days later, I experienced intense pruritus of the forearms with raised papules surrounded by a histamine-like response. Assuming that the lesions were mosquito bites from warm, humid evening dog walks, I attempted to suppress the irritation with mometasone, but with only partial success. As the days progressed, excoriations developed, without a history of injury, that did not penetrate the epidermis. At last, the penny dropped—burrows. I had scabies. But from where?

I had seen a case recently but had never before caught a parasite from a patient in 25 years of practice. Out came the veterinary textbook to see whether guinea pigs can harbour scabies. The nits had obviously been a red herring (coinfestation). Apparently, the sarcoptic mite *Trixacarus caviae*, which causes guinea pig mange, has zoonotic potential. The family Sarcoptidae also includes *Notoedres cati* (cat mange), *Notoedres muri* (rat ear itch), *Sarcoptes scabiei* (species-specific varieties in dog, squirrel, fox, etc). The cavia species can also cause scabies in humans, but this rarely occurs.

The life cycle begins as the adult female lays its eggs while burrowing into the skin. The eggs hatch to

release larvae, which moult into nymphs. Larvae and nymphs are found in short burrows called moulting pouches. Mating occurs after a male penetrates the moulting pouch of an adult female. Impregnated females extend their moulting pouches into burrows, laying eggs as they go; and so on. Transmission is by person to person and fomites, such as bedding and clothing. Mites are predominantly found between the fingers and on the wrists. Rashes may occur on the abdomen, axillae, pubic area, knees, ankles, buttocks, elbows, and between the shoulder blades. Mites hold onto the skin using suckers attached to the two most anterior pairs of legs.

After making the diagnosis, I visited our local pharmacist, who handed me a bottle of malathion at arm's length.

Since fairly prolonged contact is required to spread scabies, the risks to my patients must be close to zero. It may, however, be worth doctors questioning their patients about small pets if similar unexplained itching occurs.

As for myself, the pruritus persists but is no doubt iatrogenic or, more probably, psychogenic.

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