Pets and immunocompromised owners

J Scott Weese DVM DVSc DipACVIM
• Survey of people at general physician practices in Ontario (n=641)
  ▫ 64% of households had pets
    • 43% dogs
    • 30% cats
    • 4.5% pocket pets
    • 3.4% reptiles
    • 3.4% birds
  ▫ Regular contact outside the home by
    • 35% of pet owning households
    • 37% of non-pet-owning households

Stull et al, unpublished data
• People with compromised immune systems are increasingly common in the community
• Pet ownership by immunocompromised individuals
  ▫ Thought to be similar to that for the general population
    • Remarkably little data
  ▫ 46% of HIV-infected individuals owned a pet (Conti et al 1995)

• Pet ownership may be particularly beneficial for some
• All immunocompromised individuals are not alike

“Ripe-for-the-picking”

“Normal”
• General rule:
  ▫ Immunocompromised people are more likely to get sick with something that would not hurt an immunocompetent person, and are more likely to get seriously ill with something that would cause mild disease in someone else
Pet-associated sources of infection

- Feces
  - Direct
  - Indirect
- Mucous membranes
- Skin
- Infected sites
- Food/treats
- Bites/scratches
- Parasites
Diseases that only/predominantly impact people with compromised immune systems

Diseases that cause more severe disease in people with compromised immune systems

Diseases that are more likely to occur in people with compromised immune systems
“Traditional” zoonoses

Zoonoses primarily of immunocompromised individuals

Human healthcare origin zoonoses
What *are* the risks?

- Largely unknown
- Case reports, opinions, anecdotes
- Few objective studies
  - Scope of problem
  - Risk factors
  - Control measures
Why don’t we know?

- Sporadic, not epidemic, disease.
- Largely non-reportable infections.
- Difficult to differentiate role of animals from other sources for many.
- Limited enquiry about animals by healthcare personnel.

- Little research + little reporting = little evidence
Living with a compromised immune system and pets

- Inherent risk
  - Can never eliminate it
- Rarely (to never) is pet ownership too dangerous
  - Certain species and behaviours may be

- Cost-benefit is the key
Infection prevention Rocks!!!
Current Guidelines for Immunocompromised Persons

- Few
- Superficial
- Minimally evidence-based
- Largely focus on common sense practices

American Association of Feline Practitioners

AAFP Feline Zoonoses Guidelines

Guidelines for Preventing Opportunistic Infections Among HIV-Infected Persons --- 2002

Recommendations of the U.S. Public Health Service and the Infectious Diseases Society of America®
What are the safest pets?

• Is this a good time to get a pet?
• Good knowledge of commensal flora/ pathogen colonization of species.
• Established preventive medicine programs
• Good knowledge of zoonotic disease risks
• Good (and testable) temperament
What sort of new pet?

- “Low-risk” species/breed
  - avoid bite/scratch-prone breeds, breeds with common behavioural problems
  - no reptiles, wild species, exotic species, psittacines?
- Animal $\geq$ 1 yr old
- Not from shelter, humane society, pet store
- No recent history of diarrhea
- Veterinary evaluation *before* entering the home
- Cat: indoor only
Pet Screening

• Testing for Cryptosporidium, Salmonella, Campylobacter has been recommended (Hemsworth and Pizer 2006)
  ▫ How often, how, when, what to do with results???
• Frequent questions about MRSA, Toxoplasma, Bartonella
• Variable sensitivity, specificity, lack of objective information on methods, false sense of security if screening done.
Pet Screening

- Every pet is carrying something zoonotic, regardless of limited screening results.

- Why screen a pet for a limited number of potential pathogens and not screen human household contacts?
Risk Reduction

- Good preventive medicine
- Good diagnostic testing with animal disease
Risk Reduction

- Prevent contact of pets and wild animals (including rodents).
- Cats: keep claws short.
- Avoid boarding in kennels.
- Consider avoiding pet sleeping in owner’s bed.
- Regularly launder pet blankets/bed.
- Assume the pet is carrying something zoonotic and treat it that way.
• Litterbox management
• No toilet drinking
• No involvement in pet therapy programs
Osama doesn’t want you to...

WASH YOUR HANDS!!

Remember washing your hands is the simplest means of preventing infection

A message from your friends at the

Centers for Disease Control
(How) should veterinarians identify high risk clients?

(How) should this be documented?
• Immunocompromised individuals should not:
  ▫ Be automatically told to get rid of pets
  ▫ Be told to dismiss potential concerns.

• Being immunocompromised is NOT a contraindication to having a pet.
“... (physicians) should be sensitive to the possible psychological benefits of pet ownership and should not routinely advise patients to part with their existing pets.”

Hemsworth and Pizer 2006
“It may be more detrimental to the well-being of the immunocompromised patient to lose a beloved pet than to potentially risk acquiring a zoonotic disease.”