

Responsible Reptile & Amphibian Ownership:

Know the Facts on Salmonellosis

There are estimated to be 13 million pet reptiles in American households. Arm yourself with all of the pertinent information about your pet, including facts about salmonellosis.



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Most reptiles/amphibians shed Salmonella

Salmonella spp. is part of the normal population of intestinal bacteria in reptiles and amphibians. Salmonella can be passed in the feces sporadically or continuously. Because animals appear normal, there are no warning signs that this potentially serious microbe is being shed.

How is Salmonella transmitted to humans?

Salmonella spp. may be spread through contact with the reptile/amphibian or its droppings. It has been said “*Simply having a reptile in the household increases the risk of infection*” (Mermin 2004).

Transmission of disease can be direct: touching animal feces, then touching your face or putting your hand in your mouth.





Indirect transmission occurs when bacteria 'hang out' on an intermediate surface for a while. For instance, your reptile defecates in its cage, walks through its feces and then tracks stool (even just a few, dry fecal particles) onto your carpet. You later touch your carpet and then touch your face or mouth.

Who is most at risk?

In one survey, 45% of reptile-associated salmonellosis occurs in **children aged 5 years or younger**. The relatively weak immune system in kids paired with their poor hygiene practices **makes reptile ownership a significant risk in households with young children**.

Other immunosuppressed individuals at increased risk for contracting Salmonella infection include:

- Pregnant women and new mothers
- The elderly
- Patients on radiation, chemotherapy, or high doses of steroids
- The HIV-positive

What are the signs of salmonellosis in humans?

Signs of Salmonella infection in humans typically include diarrhea, fever, abdominal cramping and severe nausea. Unfortunately severe infections can develop in individuals with weak immune systems. These severe, deep-seated infections can lead to blood poisoning, meningitis, brain abscesses, infection of the heart muscle and even death.



What can I do to minimize my family's risk of contracting disease?

Wash Your Hands.

The single most important measure to prevent the transmission of infectious disease is hand washing with warm, soapy water. Wash your hands after handling not only your pet or its feces, but also its food, bedding or cage furniture. Wash your hands even when gloves are worn.

Never eat, drink or smoke in animal areas.

Never house your pet anywhere near food areas.

Keep your hands away from your **eyes, mouth and nose.**

Regularly clean and disinfect your pet's enclosure and cage furniture.

It is particularly important to clean and disinfect the water bowl because it can serve as a petri dish allowing small numbers of bacteria to multiply tremendously.

References and Further Reading

American Pet Products Association. Industry statistics and trends. Available at http://www.americanpetproducts.org/press_industrytrends.asp. Accessed on May 5, 2012.

Association of Reptile and Amphibian Veterinarians. Salmonella bacteria and reptiles. Available at <http://www.arav.org/ECOMARAV//timssnet/journals/Salmonella.cfm>

Centers for Disease Control. Reptiles, amphibians, and Salmonella. Available at <http://www.cdc.gov/Features/SalmonellaFrogTurtle/>. Accessed on May 5, 2012.

Johnson-Delaney CA. Reptile zoonoses and threats to public health. In: Mader DR (ed). Reptile Medicine and Surgery, 2nd ed. Saunders Elsevier; St. Louis: 2006. Pp. 1017-1030.

Mermin J, Hutwagner L, Vugia D, *et al.* Reptiles, amphibians, and human Salmonella infection: a population-based, case-control study. Clin Infect Dis 38(suppl 3):S253-S261 2004.

Van Meervenne E, Botteldoorn N, Lokietek S, *et al.* Turtle-associated Salmonella septicaemia and meningitis in a 2-month-old baby. J Med Microbiol 58(Pt 10):1379-1381, 2009.

Younus M, Wilkins MJ, Davies HD, *et al.* The role of exposures to animals and other risk factors in sporadic, non-typhoidal Salmonella infections in Michigan children. Zoonoses Public Health 57(7-8):e170-e176, 2010.