



Potential Zoonoses Associated with Fish and Amphibians

The intent of this Information Sheet is to describe the most common zoonotic agents seen in aquatic animals, such as fish and amphibians, and the safe work practices suggested to mitigate the exposure to these pathogens.

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1. Introduction: This document provides information about potential zoonotic exposure while working with aquatic animals or their products (e.g. tissue samples). The infectious agents listed here are not all inclusive, but provide the most common zoonotic agents seen in aquatic animals. The safe work practices are provided as suggestions for staff and researchers who work with animals, in animal facilities, or with animal products.

2. Zoonotic Pathogens

- a. Mycobacterium
 - i. Organisms: *Mycobacterium* spp. (most often *M. marinum* & *fortuitum*).
 - ii. Clinical Signs
 1. Animals – multifocal skin sores in amphibians and nodules in fish.
 2. Humans – Skin sores at site of infection; disseminated disease in immunosuppressed individuals.
 - iii. Transmission: Contamination of tiny scratches on the hand or skin.
- b. Fish Handler's Disease or Erysipelas
 - i. Organisms: *Erysipelothrix rhusiopathiae*
 - ii. Clinical Signs
 1. Animals – Asymptomatic or diarrhea.

2. Humans – localized skin sore with pain and swelling, may lead to more widespread skin or systemic infection.
- iii. Transmission: Contamination of tiny scratches on the hand or skin.

c. Salmonellosis

- i. Organisms: *Salmonella* spp.
- ii. Clinical Signs
 1. Animals – Asymptomatic.
 2. Humans – Diarrhea, nausea, vomiting, abdominal pain.
- iii. Transmission: Accidental ingestion of contaminated water/environment.

3. Safe Work Practices

a. Good Personal Hygiene

- i. Wash hands after working with animals or animal products and when leaving animal facilities. For further instruction refer to CARE SOP 713 Hygiene-Hand Washing.
- ii. Do not eat, drink, or use tobacco products in animal facilities.

b. Personal Protective Equipment (PPE)

- i. Wear disposable gloves during procedures that increase the likelihood of exposure to zoonotic agents (e.g. handling of aquatic animals or cleaning holding tanks/aquariums). Exercise increased caution when handling sick animals (i.e. animals showing clinical signs such as skin lesions and lethargy) or when you have an exposed break in skin (e.g. cut or scratch).
- ii. Use proper PPE for work setting as appropriate (e.g. gown, facemask, protective sleeves). Maintain dedicated protective clothing and footwear while working with animals or in animal facilities. Do not wear the same protective clothing outside of animal facility.
- iii. Use face masks/goggles when appropriate (i.e. activities where splashing of water may occur).

c. Animal Care

- i. Isolate sick or infected animals when possible.
- ii. Handle and care for sick or infected animals last.

d. Cleaning and Disinfection

- i. Maintain clean, dry, and uncluttered animal areas and workspace.
- ii. Disinfect laboratory work surfaces after each use. Use only disinfectants approved by facility managers and that are suitable for the potential agents identified in this information sheet.
- iii. Dispose of deceased animals, animal products, items contaminated by animal products, contaminated bedding, and laboratory waste in a facility approved manner.

e. Proper Sharps Handling

- i. Work only with one uncapped needle at a time and immediately dispose of after use in sharps receptacle.
- ii. Avoid recapping needles whenever possible.
- iii. For further guidelines refer to CARE SOP 711.01-Sharps Precautions.

f. Medical Attention

- i. Contact Gannett Occupational Medicine office (255-6960) for medical evaluation if you suspect any exposure, or if you develop any symptoms associated with infection with zoonotic agents (e.g., fever, malaise, diarrhea, abdominal pain). Alternatively, see your own personal health

care provider if any injury or potential exposure to a zoonotic agent occurs.

- ii. Notify the principal investigator or supervisor and complete an accident and injury report, <http://prp.ehs.cornell.edu/Acc-Inj/>

4. References

- a. CDC: Reptiles, Amphibians, and *Salmonella*
<http://www.cdc.gov/Features/SalmonellaFrogTurtle/>
- b. CARE SOP 713 Hygiene-Hand Washing:
<http://www.research.cornell.edu/care/documents/SOPs/CARE713.pdf>
- c. CARE SOP 711.01-Sharps Precautions:
<http://www.research.cornell.edu/care/documents/SOPs/CARE711.pdf>
- d. Gannett Health Services, (607) 255-5155 or www.gannett.cornell.edu/