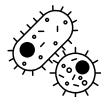


The following is general information for those involved in the care and use of laboratory fish, frogs, and other aquatic animals. Contact occupational.health@cuanschutz.edu if you have any questions.

POTENTIAL RISKS



The development of fish, frog and aquatic animal-borne disease in a human host often requires a preexisting state that compromises the immune system (steroids, immunosuppressive drugs, or chemotherapy). In general, humans contract fish, frog and aquatic animal-borne disease through ingestion of infected tissues or aquarium water or by contamination of lacerated or abraded skin

Potential fish, frog, and aquatic animal zoonoses

Salmonellosis

- Inhabits the intestinal tract of many humans and animals
- Occurs worldwide
- Transmission
 - Ingestion (direct or indirect)
- Symptoms
 - Acute gastroenteritis
 - Sudden onset of abdominal pain
 - Diarrhea
 - Nausea
 - Fever
- Treated with antibiotics

Mycobacterium

- Non-motile, acid-fast rods
 - Two species: *M. fortuitum* & *M. marinum*
 - Pathogens of tropical fish
- Transmission
 - Contamination of lacerated or abraded skin with aquarium water or fish contact
- Symptoms
 - Localized granulomatous nodule (hard bump) may form at site of infection
 - Initially appear as reddish bumps that slowly enlarge to purplish nodules
 - Most commonly on hands or fingers
 - Appear ~6-8 weeks after exposure

- Infection can spread to nearby lymph nodes
- Possible to cause some degree of positive reaction to a tuberculin skin test

Aeromonas spp.

- Facultative anaerobic, gram-negative rods
- Can produce septicemia in infected fish
 - Species most commonly isolated is *A. hydrophilia*
- Transmission
 - Via oral and fecal routes on exposure to contaminated water and food
- Symptoms
 - Gastroenteritis (nausea, vomiting and diarrhea)
 - Localized wound infections
- Found world wide in tropical fresh water
 - Considered part of the normal intestinal microflora of healthy fish

Sparganosis

- Transmission:
 - Ingestion of meat or contaminated water
 - Contact with wounds or mucous membranes
- Symptoms
 - Nodular lesion (bump) that develops slowly on any part of the body
 - Itching
 - Sometimes with urticarial rash (hives)
- Prevented by avoiding ingestion of contaminated water and meat
 - Avoiding direct contact with infected muscles

Other diseases associated with contact with fish, frogs and other aquatic animals:

- Gram-negative Organisms: *Plesiomonas shigelloides*, *Pseudomonas fluorescens*, *Escherichia coli*, *Salmonella* spp., *Klebsiella* spp., *Edwardsiella tarda*
- Gram-positive Organisms: *Streptococcus*, *Staphylococcus*, *Clostridium*, *Erysipelothrix*, *Nocardia*
- Protozoa: *Cryptosporidium*

ALLERGIC REACTIONS TO FISH, FROGS & AQUATIC ANIMALS



- Human sensitivity to fish, frogs and aquatic animal proteins in the laboratory setting is rare
- It remains possible, however, to become sensitized to fish, frogs and aquatic animal proteins through
 - Inhalation
 - Skin contact

HOW TO PROTECT YOURSELF



Wash your hands

- Single most effective preventative measure
- Regular, thorough hand washing
- Wash hands and arms after handling any animal
- Never drink or eat in the animals rooms or before washing your hands

Wear gloves

- When working with fish, frogs or other aquatic animals, wear appropriate gloves for the task
- Wash your hands after removing gloves

Wear respiratory protection

- Respiratory protection should be worn when there is risk of aerosol transmission of zoonotic agents
- Respiratory protection should be worn when there is a medical history or symptoms of allergies
- Initial Medical Evaluation for respiratory clearance is performed through Occupational Health
- Fit testing is performed through Industrial Hygiene once clearance is complete through Occupational Health

Wear other protective clothing

- Disposable gowns are required to be worn in the vivarium
- Consider changing clothing before leaving work
 - Place dirty clothing in a bag and launder clothes at home before wearing again

Follow proper exposure reporting protocols

- If you are injured on the job, promptly report the incident to your supervisor
 - Immediately call or email Occupational Health (303) 724-9145 during business hours
 - Outside of normal hours seek medical attention at emergency department or other healthcare provider
 - Fill out incident report for exposure to biological hazards
 - File a claim with University Risk Management
 - <https://www.cu.edu/risk/file-claim>
- Minor cuts and abrasions should be immediately cleansed with antibacterial soap
 - Protect injuries from exposure

Tell your physician you work with fish, frogs or other aquatic animals

- Whenever you are ill, mention to your physician that you work with fish, frogs or other aquatic animals
- Many zoonotic diseases have flu-like symptoms

For more information, refer to the Occupational Health website
<https://research.cuanschutz.edu/ehs/home/divisions/occupational-health>



or contact Occupational Health at
occupational.health@cuanschutz.edu