

Preventing Allergic Reactions and Contraction of Zoonotic Diseases While Working with Aquatics



It is important to be aware of the risk factors that zoonoses and allergens present while working with fish, amphibians and their environments. Awareness of hazards and proper hygiene practices is essential in avoiding health complications.

Allergic Reactions to Fish and Amphibians

Development of Allergen Sensitization

Individuals working with aquatic animals can become sensitized to the proteins excreted by fish and amphibians. Sensitization to these allergens can result in allergic reactions with varying severity.

Symptoms

Mild allergic symptoms include sneezing, nasal congestion and itchy eyes. Sensitization to animal allergens can also result in the development of asthma. In severe cases, an allergic reaction may result in anaphylaxis.

Zoonotic Diseases

Recognizing Diseases in Animals

Common zoonotic diseases present in fish and amphibians as symptoms such as bloating, diarrhea, lesions, ulcers, frayed fins, damaged gills, discoloration and reduced activity. However, it is important to always practice universal precautions as some zoonotic diseases are asymptomatic in animals.

Common Zoonotic Pathogens Found in Aquatic Animals

Individuals who are pregnant, chronically ill or have immunodeficiency are more prone to contracting zoonotic diseases and are at a higher risk for more severe disease progression. Below are some examples of common aquatic zoonoses, how they are transmitted, and how the resulting disease presents in humans.

- I. Leptospirosis:
 1. Transmitted when broken skin or mucous membranes come in contact with infected animals or environment
 2. Symptoms range from asymptomatic to severe flu-like symptoms, organ failure, encephalitis and pulmonary disease
- II. Mycobacterium
 1. Transmitted when broken skin or mucous membranes come in contact with infected animals or environment
 2. Symptoms include dermatitis, lesions, and skin loss. Progression of the disease can lead to arthritis and bone infections.
- III. Klebsiella
 1. Transmitted when broken skin or mucous membranes come in contact with infected animals or environment
 2. Symptoms include fever, chills, flu-like symptoms, productive cough and shortness of breath
- IV. Salmonella
 1. Transmitted through ingestion of contaminated water or other materials in infected environment
 2. Symptoms include fever, nausea, diarrhea and abdominal pain
- V. Cryptosporidia
 1. Transmitted through ingestion of contaminated water or other materials in infected environment
 2. Symptoms include diarrhea

Preventative Measures

- I. Proper Hygiene
 1. Frequent handwashing is the single most effective means of preventing disease transmission. It is important to thoroughly wash your hands after working with animals or their environments.
 - a. Avoid touching your face with your hands to minimize transfer of pathogens
- II. Personal Protective Equipment (PPE)
 1. PPE acts as a physical barrier between you and the environment. PPE can prevent the transmission of bacteria from the environment into broken skin.
 - a. Always practice universal precautions
 - b. Wear dedicated protective clothing such as waterproof aprons or coats
 - c. Wear respiratory and eye protection when appropriate
 2. Cover abrasions, cuts and sores to avoid broken skin contacting contaminants

What Should I Do if I believe I have Developed Allergies or Contracted a Zoonotic Disease?

Promptly seek medical attention by calling McLaren Central Occupational Medicine Program, (989)779-5600, or McLaren Ready Care (989)773-1166. In case of a medical emergency, dial 911.

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