

**What Building Owners, Health
Professionals and Environmental
Disinfection Contractors Need to Know
about the Current Swine Influenza A
(H1N1) Outbreak**

By: Patrick Moffett, CHMM, REA

Swine Flu Information for Building Owners, Health Professionals and Environmental Disinfection Contractors

What is the Swine Flu?

The swine influenza A (H1N1) virus is a flu that has recently infected humans in the U.S. and Mexico. It is a novel flu in that it has not previously been identified in North America. It is also unique in that it appears to be a new genetic strain mutating from pigs to flies to people.

When a human gets the swine flu the current virus is resistant to antiviral medications such as amantadine (Symmetrel) and rimantadine (Flumadine), but is sensitive to oseltamivir (Tamiflu) and zanamivir (Relenza).

What are the Symptoms of Swine Flu?

Swine flu symptoms are similar to those caused by other influenza viruses. Although many cases have been reported as uncomplicated influenza-like illnesses (fever, cough or sore throat), some have reported mild respiratory illness symptoms (nasal congestion, rhinorrhea) without fever and occasional severe disease also has been reported. Other symptoms reported with swine influenza A virus infection include vomiting, diarrhea, myalgia, headache, chills, fatigue, and dyspnea. Conjunctivitis is rare, but has been reported. Severe disease (pneumonia, respiratory failure) and fatal outcomes have been reported with swine influenza A virus infection. The potential for exacerbation of underlying chronic medical conditions or invasive bacterial infection with swine influenza A virus infection should be considered.

Infectious Period

Persons with swine influenza A (H1N1) virus infection should be considered potentially contagious for up to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved.

Children, especially younger children, might potentially be contagious for longer periods. The duration of infectiousness might vary by swine influenza A (H1N1) virus strain. Non-hospitalized ill persons who have confirmed or suspected cases of swine influenza A (H1N1) virus infection are recommended to stay at home (voluntary isolation) for at least the first 7 days after illness except to seek medical care.

Phase 4 Alert

A Phase 4 alert is characterized by confirmed person-to-person spread of a new influenza virus able to cause “community-level” outbreaks. The increase in the pandemic alert phase indicates that the likelihood of a pandemic has increased. CDC determined that swine influenza A (H1N1) virus is contagious and is spreading from human to human. However, at this time, it is not known how easily the virus spreads between people.

Swine Flu Information for Building Owners, Health Professionals and Environmental Disinfection Contractors

Medical Professionals

Medical professionals who must examine patients that have a confirmed or suspected case of swine flu::

- Should avoid close contact (up to 6 feet) from patients.
- Should wear personal protective equipment including fit-tested N95 respirator or comparable surgical mask, disposable gown, gloves and goggles.
- Should dispose PPE in a biohazardous bag when finished with the examination.
- Must wash hands thoroughly with soap and water or alcohol-based hand gel before and after examining a patient.

What are Building Owners and Managers expected to do when Reported Cases of Swine Flu is found in Their Buildings?

The swine flu virus is expected to only live for a few hours without a host. However when reported cases of swine flu become a public health issue in your building, building owners and managers may be required to take extraordinary cleanup and disinfecting measures to regain the confidence of the public that the building is safe. This is especially true when reported cases of influenza affect schools, libraries, planes, ships, restaurants, and other public use areas.

The transmission of swine flu is generally from person to person through coughing or having physical contact with a sick person. Sick people pass the influenza virus by touching surfaces and objects such as counters, desks, phones, keyboards, sinks, door handles, bedding and exercise equipment. Parents should be concerned about children's toys.

Cleanup Worker Protection

Immune compromised workers and some elderly workers, including employees who have chronic medical conditions such as heart and respiratory disease should not be working in environments known or suspected of containing swine influenza.

Healthy workers should wear disposable personal protective equipment including Tyvek-like full-body clothing or gown, a minimum of an N-95 respirator (preferably P-100), gloves and splash resistant goggles.

Regularly train employees on and especially for this virus, refresh the training on OSHA compliant safety procedures concerning the proper use of PPE and respiratory protection, handwashing and chemical usage before your workers begin their workday.

Swine Flu Information for Building Owners, Health Professionals and Environmental Disinfection Contractors

Common Answers about Cleaning and Disinfecting Chemicals

1. Detergents and warm water washing provide the best cleaning method for materials and surfaces that are dirty.
2. Disinfectants work best once the surface is clean.
3. Regular dishwashing detergents work well on dishes that can be washed in the sink or dishwasher.
4. Hot water washing of linens and laundry followed by drying in the sun or dryer works best for fabrics.

Recommended Cleaning and Disinfecting Methods for Surfaces and Contents

Rooms requiring a general surface cleaning generally involve the cleaning of surfaces an average person can touch plus 3 feet beyond that surface. In these situations consider:

- Securing the work area except for qualified employees.
- Stage cleaning chemicals, disinfectants and containers in an orderly process where you are always using clean solutions.
 - This process will allow you to have a fresh supply of cleaners, disinfectants and towels.
- Doors, knobs and handles should be cleaned twice:
 - When entering and cleaning the room for the first time; and
 - On completion of the room's cleaning process.
- When many desks and surfaces are involved, triage the work area into manageable sections:
 - The most difficult to the least difficult;
 - The farthest surface to the closest surface that allows you out of the workspace.
- When different types of surfaces are involved such as non-porous desks, phones, computers and keyboards, each surface or material may require a different cleaning and disinfecting solution that will not damage them.
- Book covers require a good surface cleaning. Do not attempt to clean pages of books.
- Works of art may require special handling and cleaning methods. Ask the owner for their approved cleaning procedures and follow that procedure. Valuable contents, contents having a patina, photographs and oil paints should not be disinfected without the advice of a certified contents restorer or conservator.
- Dishes and general kitchen items that can safely be placed in a dishwasher can be cleaned and sanitized by normal cleaning processes.
- Open food should be disposed.
- Open personal sanitary items such as makeup, soap, toothpaste, contact lens cleaner should be disposed.
- Laundry can be laundered by normal cleaning processes.

Swine Flu Information for Building Owners, Health Professionals and Environmental Disinfection Contractors

- Children's toys can usually be cleaned and disinfected.
 - When there is a question about children's toys and how they should be cleaned and sanitized or disposed, as a general rule of thumb:
 - Hard surface wood, plastic and metal toys are considered cleanable;
 - Fabric toys that can be laundered are considered cleanable;
 - Cardboard boxes that can be cleaned with a Lysol-like product are considered cleanable;
 - Washable books are considered cleanable;
 - Bed mattresses that can be surface washed then disinfected with bleach, Lysol, Sporicidin or most wide-spectrum EPA registered disinfectants is acceptable.

Recommended Cleanup and Disinfecting Methods for an Entire Room

In large rooms such as classrooms or a lobby, consider:

- Securing the work area except for qualified employees.
- Temporarily sealing off all ventilation systems from the affected room.
- Before applying any chemical, including detergents and disinfectants, first test all surfaces and materials for color fastness and chemical compatibility;
- Cleaning from ceiling to floor is the best cleaning process.
- One process is to wet micro-mist fog an EPA registered disinfectant on ceilings and walls and then floors.
- A second process is to wet wipe surfaces with a disinfectant followed by clean and dry cotton towel wiping.
- Immediately and carefully wipe ceilings and walls with clean and dry cotton towels.
- No matter what the cleaning or disinfecting process is:
 - Don't over wet the surface to where the detergent or disinfectant streaks surfaces or leaves watermarks;
 - Rotate the towel to clean and dry surface areas;
 - Place used towels in bags marked biohazard;
 - Dispose used towels or place them in a biohazard recycling bag designated for hot water washing.
 - On tall ceilings and walls use a pole with a vice clamp that has a chemical sponge and a dry cotton towel attached.
 - When the disinfectant treated surface has noticeable dirt and grime streaks or the area cleaned is considerably cleaner than non-cleaned surfaces, the ability of the disinfectant to clean and sanitize in one application is compromised.

Swine Flu Information for Building Owners, Health Professionals and Environmental Disinfection Contractors

- Consider addressing this issue with the building owner and change the cleaning process to include a thorough Spring Cleaning.
- When floors are carpeted, ensure all disinfectant applications will not bleach or unnecessarily oxidize and fade color.
 - Consider covering carpet, window coverings and upholstered surfaces with painter's cloths.
- Clean ceiling lights and fixtures before attempting to clean contents.
- Clean upholstered furniture fabric materials per manufacturer instruction or to industry standards.

About the Author:

Patrick Moffett is a senior environmental/industrial hygienist and infection control practitioner with 30 years of biological mitigation project oversight, environmental testing and cleanup experience.

Patrick is employed by Environmental Management & Engineering, Inc. (EME) in Huntington Beach, California. Office: 714-379-1096, cell: 714-928-4008, email: PatMoffett@att.net

Patrick teaches and lectures on topics such as biological remediation and hazardous materials management across the US, Canada and UK.

Patrick's credentials include but are not limited to:

- California EPA Registered Environmental Assessor
- Certified Hazardous Materials Manager
- Senior Environmental/Industrial Hygienist/Infection Control Practitioner
- California and Arizona Licensed General Contractor
- Master Restorer