

## **Biological Agent Reference Sheet (BARS)**

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## BIOLOGICAL AGENT REFERENCE SHEET

### Influenza A / H1N1

CHARACTERISTICS	
<i>Morphology</i>	Swine Influenza A / H1N1. Family Orthomyxoviridae. Negative sense single-stranded RNA Virus. Reassortment of strains of Influenza A / H1N1 of avian, porcine and human origin. Virus capsid is enveloped. Virions are spherical to pleomorphic.
<i>Growth Conditions</i>	Influenza viruses are cultured in chick embryo and cell culture (MDCK).

HEALTH HAZARDS	
<i>Host Range</i>	Humans, birds and other mammals (vertebrates).
<i>Modes of Transmission</i>	Droplet infection, fomites, saliva, nasal secretions, feces, aerosol and blood.
<i>Signs and Symptoms</i>	Fever, runny nose, sore throat, diarrhea, coughing, vomiting, nausea, lethargy, myalgia, anorexia and dyspnea.
<i>Infectious Dose</i>	Unknown.
<i>Incubation Period</i>	Estimated incubation period is unknown and could range from 1-7 days.

MEDICAL PRECAUTIONS / TREATMENT	
<i>Prophylaxis</i>	Antiviral chemoprophylaxis with antiviral drugs.
<i>Vaccines</i>	None available.
<i>Treatment</i>	Oseltamivir, Zanamivir for seven days after exposure.
<i>Surveillance</i>	Daily temperature recording.
<i>Emory Requirements</i>	Report any exposures.

LABORATORY HAZARDS	
<i>Laboratory Acquired Infections (LAIs)</i>	No data available.
<i>Sources</i>	No data available.

SUPPLEMENTAL REFERENCES	
<i>BMBL: 5<sup>th</sup> Edition</i>	<a href="http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf">http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf</a>
<i>CDC Swine Flu Guidelines</i>	<a href="http://www.cdc.gov/swineflu/guidelines_labworkers.htm">http://www.cdc.gov/swineflu/guidelines_labworkers.htm</a>
<i>WHO Guidelines</i>	<a href="http://www.who.int/en/">http://www.who.int/en/</a>

CONTAINMENT REQUIREMENTS	
<i>BSL-2</i>	Diagnostic laboratory work on clinical samples from suspected cases. All sample manipulations should be conducted inside a biosafety cabinet (BSC).
<i>BSL-2+</i>	Viral isolation on clinical specimens from suspected cases should be performed in a BSL-2 laboratory with BSL-3 practices.
<i>ABSL-2</i>	All animal work with Influenza A / H1N1.

SPILL PROCEDURES	
<i>Small</i>	Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply an EPA registered disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before disposal and cleanup of spill materials.
<i>Large</i>	Contact Emory's Biosafety Officer (404-727-8863), the EHSO Office (404-727-5922), or The Spill Response Team (404-727-2888).

EXPOSURE PROCEDURES		
<i>Mucous membrane</i>	Flush eyes, mouth or nose for 15 minutes at eyewash station.	
<i>Other Exposures</i>	Wash area with soap and water for 15 minutes.	
<i>Reporting</i>	Immediately report incident to supervisor, complete an employee incident report in PeopleSoft.	
<i>Medical Follow-up</i>	<b>7am-4pm (OIM):</b> EUH (404-686-7941) EUHM (404-686-7106) WW (404-728-6431)	<b>After Hours:</b> OIM NP On Call 404-686-5500 PIC# 50464
	<b>Needle Stick (OIM):</b> EUH (404-686-8587) EUHM (404-686-2352)	<b>Yerkes:</b> Maureen Thompson Office (404-727-8012) Cell (404-275-0963)

VIABILITY	
<i>Disinfection</i>	70% ethanol, 5% Lysol, and 10% bleach.
<i>Inactivation</i>	Virions are sensitive to treatment with heat, lipid solvents, non-ionic detergents, formaldehyde, oxidizing agents. The infectivity is reduced after exposure to irradiation.
<i>Survival Outside Host</i>	Influenza viruses can remain infectious for about one week at human body temperature, over 30 days at 0°C (32°F), and indefinitely at very low temperatures.

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
<i>PPE</i>	Wear PPE according to the requirements of the lab and the protocol. This includes and is not limited to double-gloves, closed toed shoes, closed front gowns, and appropriate face and eye protection based on risk assessment. Wash hands with soap and water before and after removing gloves.
<i>Other PPE</i>	Due to the modes of transmission, respirators may be required when working with Influenza A / H1N1. Fit testing and training is required annually per Emory's Respiratory Program: <a href="http://www.ehso.emory.edu/content-manuals/RespiratoryProtectionProgram.pdf">http://www.ehso.emory.edu/content-manuals/RespiratoryProtectionProgram.pdf</a>