

Risk Assessment Template: CDC/NIH Influenza Agent Summary Statement Committee* April 2004

Factor of Interest	Human and LPAI incl LPAI infecting humans	H5N1 and H5N1 infecting humans	Non contemporary human influenza	r1918
Pathogenicity	+ to ++	++++	++	Unknown
Route of transmission	Large droplet and airborne	Large droplet and airborne	Large droplet and airborne	Unknown
Agent stability	+ to ++	++	+	+
Infectious Dose	1 to 10	?	1 to 10	1 to 10
Concentration	10 ² to 10 ⁸	10 ² to 10 ⁸	10 ² to 10 ⁸	10 ² to 10 ¹⁰
Origin (epidemiologic)	Epidemic or sporadic	Sporadic or outbreak associated	Outbreak associated	Laboratory acquired
Geographic source	LPAI: permit driven	Any	Laboratory	Laboratory
Animal study data	+ to ++	+ to ++++	+ to ++	?
Availability of effective prophylaxis/therapy	Vaccines and/or antivirals	Antivirals	Antivirals	Antivirals
Medical surveillance	Recommended for LPAI	Required	Strongly recommended	Strongly recommended
Experience/skill of at-risk personnel		Specialized training	Specialized training	Specialized training

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Risk Assessment Template: modified in 2008

Factor of Interest	Human and LPAI incl LPAI infecting humans	H5N1 and H5N1 infecting humans	Non contemporary human influenza	r1918
Pathogenicity	+ to ++	++++	++	+ to ++++
Route of transmission	Large droplet and airborne	Large droplet and airborne	Large droplet and airborne	Large droplet and airborne
Agent stability	+ to ++	++	+	+
Infectious Dose	1 to 10 for human influenza	?	1 to 10	1 to 10
Concentration	10 ² to 10 ⁸	10 ² to 10 ⁸	10 ² to 10 ⁸	10 ² to 10 ⁸
Origin (epidemiologic)	Epidemic or sporadic	Sporadic or outbreak associated	Outbreak associated	Laboratory acquired
Geographic source	LPAI: permit driven	Any	Laboratory	Laboratory
Animal study data	+ to ++	+ to ++++	+ to ++	0 to ++++
Availability of effective prophylaxis/therapy	Vaccines and/or antivirals	Antivirals	Antivirals	Antivirals
Medical surveillance	Recommended for LPAI	Required	Strongly recommended	Strongly recommended
Experience/skill of at-risk personnel		Specialized training	Specialized training	Specialized training

NIAID/DIR/LID/Subbarao lab: Occupational Medicine Response

- If an employee reports a spill but had intact respiratory protection, employee returns to work, monitors symptoms and temperature and reports to Occupational Medicine physician daily
- If an employee reports a spill but had questionable respiratory protection or a percutaneous exposure, employee is sent home and is asked to stay home, started on post-exposure prophylaxis, avoids contact with others and wears a surgical mask, monitors temperature and symptoms and reports to Occupational Medicine physician twice a day.
- If an employee reports a fever (temp > 100.4°F), employee stays in place, dons a surgical mask and notifies Occupational Medicine physician. The Occupational Medicine physician obtains a medical history and a work and social history for prior 14 days, consults with PI and infectious disease specialists. If indicated, Occupational Medicine physician coordinates safe transport and appropriate hospital isolation and diagnostic laboratory testing.

NIAID/DIR/LID/Subbarao lab: Experience working with HPAI and SARS-CoV in BSL-3/ABSL-3 containment 2003-2008

- SARS-CoV: 8 scientists for 244 person-months
 - HPAI and human H2N2 viruses: 15 scientists for 411 person-months
 - Our experience :
 - No spills or percutaneous exposures
 - 5 reports by 3 employees of fever: laboratory testing indicated in 1 case, hospitalization not recommended.
 - Combined 655 person-months without clinical infection with study virus
 - 54 person years without clinical infection = very low risk
- Pre-exposure prophylaxis with antiviral drugs is not essential

USDA/ARS/SEPRL/Swayne lab: Experience working with HPAI in BSL-3/ABSL-3 containment 1976-2008

- Mandatory BSL-3AG training each year for all who work in high containment with HPAI viruses or Newcastle disease virus
- Medical occupational health program that monitors workers and lists procedures should a potential exposure occur.
- In all cases of incidents, following detailed investigation by Biosafety/Biosecurity Officer, the risky procedure/process was identified and changes made in procedures to minimize recurrences.
- To date, specific issues have not recurred when the procedures were changed.

USDA/ARS/SEPRL/Swayne lab: Experience working with HPAI in BSL-3/ABSL-3 containment 1976-2008

- HPAI: 203,300 person-hrs of work accomplished over 32 years
 - Experience: 4 potential exposures documented in last 3 years; none developed clinical illness; 2 took post-exposure Tamiflu for 7 days
 - Number of incidents of clinical illness - 0
 - 105 person years without clinical infection = very low risk
- Pre-exposure prophylaxis with antiviral drugs is not essential