# Highly Pathogenic Avian Influenza A (HPAI): H5N1



### **Overview**



H5N1 is one of several influenza viruses that causes a highly infectious respiratory disease in birds. Since 2022, there have been increasing reports of deadly outbreaks among land and sea mammals (wild and domestic). This panzootic ("animal pandemic") of Highly Pathogenic Avian Influenza A (HPAI) (H5N1) viruses in wild birds has resulted in outbreaks among commercial poultry, backyard bird flocks, and spread to infect wild and domestic mammals.<sup>2</sup> Sporadic H5N1 human infections have been reported in 23 countries since 1997 with a mortality rate of >50%, but only a small number of H5N1 cases have been reported in humans since 2022.2 Most human infections with H5N1 virus have occurred after unprotected exposures to sick or dead infected animals.<sup>2</sup> There is no evidence of sustained human-to-human H5N1 transmission. Avian influenza A rarely infects people. Human H5N1 infections range from mild (e.g., upper respiratory symptoms) to severe illness (e.g., pneumonia, multi-organ failure) resulting in death.2 Clinicians should consider the possibility of H5N1 infection in persons showing signs or symptoms of acute respiratory illness who have relevant exposure history.<sup>2</sup> As long as there is no sustained human-to-human transmission, the risk to the general public is low.

## About the Pathogen & Infection Control Measures

		About the Patho	gen & Infection Control Measures			
Infectious Agent (Pathogen) <sup>2,3</sup>		Agent Type: Virus Taxonomy: Family: Orthomyxoviridae	<ul> <li>Genus: Influenza A</li> <li>Subtype: H5N1</li> <li>Synonym(s): Avian Influenza, Bird Flu, HPAI</li> <li>Characteristics: Enveloped RNA virus</li> </ul>			
Infectious Characteristics Definitions:  Incubation period—the time from exposure to infection with symptoms.  Period of communicability—time when a pathogen can be transmitted from one person to another.  Mortality rate—the number of deaths due to a disease divided by the total population.		Risk factors for severe infection:4	People who work with or have recreational exposure to affected animals			
		Incubation period: <sup>5</sup> 3–5 days but can be as long as 7–10 days				
		Period of communicability:	N/A (no sustained human-to-human transmission to-date)			
		Signs & symptoms: <sup>2</sup>	<ul> <li>Eye redness (conjunctivitis)</li> <li>Mild flu-like upper respiratory symptoms, including sore throat, cough, runny or stuffy nose, shortness of breath or difficulty breathing</li> </ul>	<ul> <li>Pneumonia requiring hospitalization</li> <li>Fever or feeling feverish</li> <li>Muscle or body aches</li> <li>Headache</li> <li>Fatigue</li> </ul>		
		Duration of illness:6	About 2 weeks			
		Severity of illness and Mortality Rate: <sup>6</sup>	The virus can cause mild to severe illness, including death. Mortality rate is ~50			
<b>Reservoir</b> —where a pathogen normally lives and grows (e.g., humans, water, etc.)		Wild birds and other affected animals				
Mode(s) of Transmission <sup>2</sup> How the Infection Spreads		Air and Contact: When virus from infected animals gets in a person's eyes, nose, or mouth or is inhaled				
Survival on Surfaces <sup>7</sup>		The virus can survive for hours to days on surfaces in warm dry conditions, however under cold and wet conditions it can survive much longer (weeks to months)				
Immunization/Treatment <sup>2</sup>		Vaccine and antiviral drugs currently in development				
Infection Prevention & Control (IPC) Measures	<ul> <li>Get the flu vacc</li> <li>Perform frequer alcohol-based hwith soap and v</li> <li>Avoid contact wpoultry, and wild</li> <li>Do not consume or poultry produraw/unpasteuri</li> <li>Persons who wpoultry or poter</li> </ul>	ings, K–12 schools, healthcare): <sup>2</sup> ine each year. In thand hygiene by using hand sanitizer or washing hands vater. If this sick or dead wild birds, dranimals. It is raw or undercooked poultry ucts, including raw eggs or zed milk products. In this products with or have contact with intially infected animals should	Patients presumed to have the same inf personnel should enter the room.  PPE: Respirator (N95 or higher), eye prote Patient Transport: Limit to essential pur the patient.  Linens: Handle per routine.  Waste management: Follow local medic authorities. H5N1 is not considered a cate cultures from the lab.  Other: Use caution with aerosol-general	egative pressure room) with door closed. fection can be cohorted. Only essential ection (goggles or face shield), gown, gloves. rooses; placement of a facemask on all waste regulations per state or local egory A infectious substance, except in		
Cleaning &		and disinfecting procedures are	necessary situations. adequate as enveloped viruses are among thos for use against Avian Influenza A (H5N1).	ne easiest pathogens to kill through		

the room for cleaning until sufficient time has elapsed for enough air changes to remove potentially infectious particles.

Disinfection<sup>2</sup>

# **Clorox Product Recommendations**

The following CloroxPro products have disinfecting claims against and can be used to effectively manage the Avian Influenza A (H5N1) virus on environmental surfaces and equipment.

Products for u	use against Avian Influe	EPA Reg. No.	H5N1 Contact Time			
Clorox Healthca Item No. 31478	re Fuzion Cleaner Disinfect 32 fl. oz. Spray	ant 9/case			67619-30	1 minute
Clorox Healthca	re Hydrogen Peroxide Cleane	ar Disinfo	rtant Wines	RITTON CO.		
	6.75" x 9" 95 ct. Canister	tant wipes				
	6.75" x 5.75" 155 ct. Canister	6/case 6/case		Magazinas	67619-25	1 minute
Item No. 30826	12" x 11" 185 ct. Bucket	2/case		Figure 1 - Company   Compa	0.0.0	
Item No. 30827	12" x 11" 185 ct. Bucket Refill	2/case		The state of the s		
Clorox Healthcar	e Hydrogen Peroxide Cleane	r Disinfect	ant Cleaner	-10		
Item No. 30828		9/case				
Item No. 30829	128 fl. oz. Refill	4/case			67619-24	30 seconds
Clorox Healthca	re VersaSure Cleaner Disinf	ectant W	ipes			
	6.75" x 8" 85 ct. Canister	6/case		•		
	6" x 5" 150 ct. Canister	6/case		MALITACIA VICTORIA DE LA CONTROL DE LA CONTR	56392-7	30 seconds
	12" x 12" 110 ct. Bucket	2/case		Service Control of the Control of th		
Item No. 31/61	12" x 12" 110 ct. Bucket Refill	2/case				
	x Disinfecting Wipes					
Item No. 15949		6/case	Fresh Scent	CCCCCCX CONTRACT ADMIN		
Item No. 15948 Item No. 31547		6/case 1/case	Lemon Scent Fresh Scent	Bitchering Piper	67619-31	15 seconds
	700 ct. Bucket Refill		Fresh Scent	The second secon		
Clorox Commer	cial Solutions Clorox Disinfe	cting Spr	av			
	19 fl. oz. Aerosol Spray	12/case	-			
				\$000 1	67619-21	30 seconds
CloroxPro Cloro	x Disinfecting Bio Stain & Oc	dor Remo	ver_	_ &		
Item No. 31903	32 fl. oz. Spray	9/case		72		
Item No. 31910	128 fl. oz. Refill	4/case			67619-33	30 seconds
CloroxPro Form	ula 409 Cleaner Degreaser I	Disinfecta	nt			
Item No. 35306	. ,	12/case				
Item No. 35300	128 fl. oz. Refill	4/case		409 Emman	67619-10	30 seconds

#### References:

- 1. WHO. Influenza: A(H5N1) [Internet]. [cited 2024 Jul 15]. Available from: <a href="https://www.who.int/news-room/questions-and-answers/item/influenza-h5n1">https://www.who.int/news-room/questions-and-answers/item/influenza-h5n1</a>
- 2. CDC. Bird Flu [Internet]. Avian Influenza (Bird Flu). 2024 [cited 2024 Jul 15]. Available from: https://www.cdc.gov/bird-flu/index.html
- $3. \ \ Microbe \ Wiki. H5N1 \ Influenza \ A \ [Internet]. \ [cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ [Cited 2024 \ Jul \ 15]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influenza\_A \ [Internet]. \ Available \ from: https://microbewiki.kenyon.edu/index.php/H5N1\_Influ$
- 4. Neumann G, Chen H, Gao GF, Shu Y, Kawaoka Y. H5N1 influenza viruses: outbreaks and biological properties. Cell Res [Internet]. 2010 [cited 2024 Jul 15];20(1):51–61. Available from: <a href="https://www.nature.com/articles/cr2009124">https://www.nature.com/articles/cr2009124</a>
- American Medical Association. H5N1 bird flu: Questions patients may have and how to answer [Internet]. American Medical Association. 2024 [cited 2024 Jul 15]. Available from: <a href="https://www.ama-assn.org/delivering-care/public-health/h5n1-bird-flu-questions-patients-may-have-and-how-answer">https://www.ama-assn.org/delivering-care/public-health/h5n1-bird-flu-questions-patients-may-have-and-how-answer</a>
- 6. Lu P, Zhao Q. Highly pathogenic avian influenza. In: Radiology of Infectious Diseases: Volume 1. Dordrecht: Springer Netherlands; 2015. p. 157–89.
- 7. OSHA. Avian Influenza [Internet]. 2024 [cited 2024 Jul 15]. Available from: <a href="https://www.osha.gov/avian-flu/background">https://www.osha.gov/avian-flu/background</a>
- 8. US Department of Transportation. Planning guidance for handling category A solid waste [Internet]. [cited 2024 Jul 15]. Available from: https://www.phmsa.dot.gov/transporting-infectious-substances/planning-guidance-handling-category-solid-waste



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