

An early adolescent presented during the 2025–2026 influenza season with hematuria and bilateral leg pain. The patient had no underlying medical conditions, no history of trauma, and did not participate in sports or regular exercise. The leg pain was described as severe, aching pain extending from the thighs to the calves, without associated tingling or numbness, and was significant enough to impair ambulation. There was no urinary frequency, urgency, dysuria, discharge, or flank pain. Symptoms developed after several days of a mild upper respiratory tract infection. The patient tested positive for influenza A and had markedly elevated creatine kinase levels. **The overall diagnosis was nontraumatic rhabdomyolysis, most likely secondary to influenza A infection.**

The 2025- 2026 Influenza Season Update

The 2025–2026 influenza season was characterized by earlier epidemic activity in the Northern Hemisphere and the global emergence of influenza A(H3N2) subclade J.2.4.1 (H3N2 subclade K). At the Johns Hopkins Health System (JHHS), influenza activity increased beginning in November 2025, approximately one month earlier than during the previous season. Peak test positivity occurred in late December 2025, in contrast to an early February peak in the 2024–2025 season.

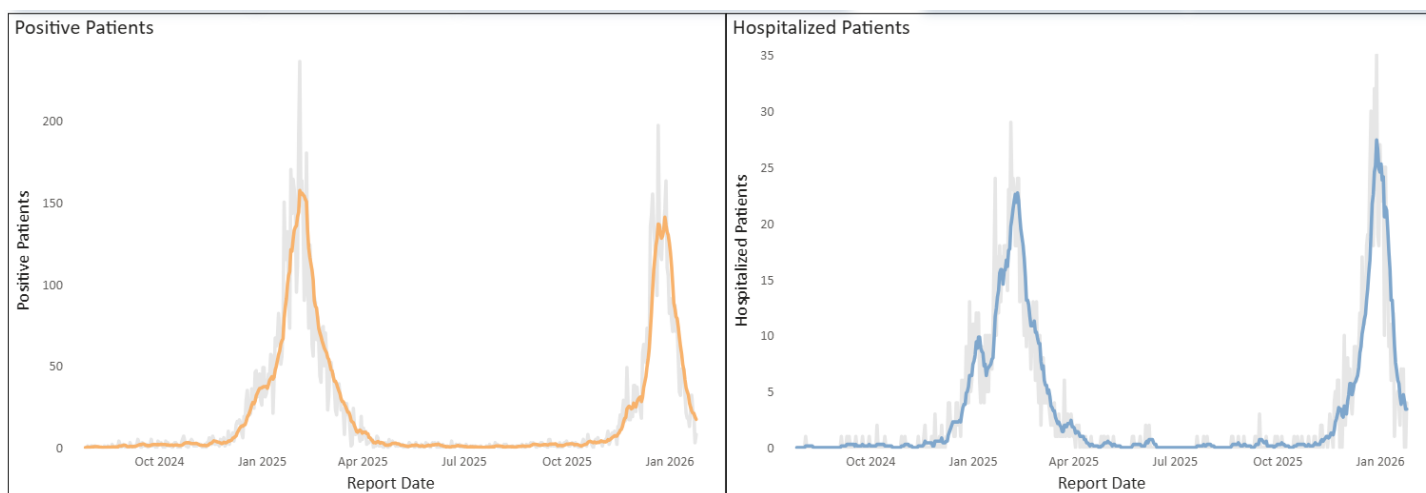


Figure 1. Influenza A positive patients and hospital admissions between July 27, 2024, and January 25, 2026, within the Johns Hopkins Health System. Colored lines indicate the running 7-day average, and the background gray bars indicate daily cases. Dashboard: Johns Hopkins University

Influenza A virus

Influenza A is one of the primary types of influenza viruses that infect humans and is classified into subtypes based on the surface glycoproteins hemagglutinin (H) and neuraminidase (N) (1). Influenza A viruses are associated with great genetic diversity through antigenic shift and drift. Transmission occurs primarily through respiratory droplets and aerosols generated by infected individuals, as well as through contact with contaminated surfaces (2). Common clinical manifestations include fever and chills, cough, sore throat, myalgias, headache, and fatigue; gastrointestinal symptoms such as vomiting and diarrhea may occur, particularly in pediatric patients (3). Annual influenza vaccination remains the most effective measure for reducing disease severity.

Increased numbers of cases, increased likelihood of rare complications

With increased numbers of influenza infections, complications, including rare extrapulmonary manifestations, are increasingly recognized. Influenza A-associated rhabdomyolysis is an uncommon but potentially severe complication that can lead to acute kidney injury and renal failure (4, 5). Rhabdomyolysis is characterized by skeletal muscle breakdown, resulting in the release of intracellular contents that can cause renal injury. It may arise from traumatic muscle injury or from non-traumatic causes, including ischemia, hyperthermia, infections, or medication exposure. Among infectious etiologies, influenza A has been identified as a more common trigger of rhabdomyolysis compared with SARS-CoV-2, HIV, and coxsackievirus (6). Creatine kinase (CK) levels exceeding 1,000 U/L are commonly used to support the diagnosis of rhabdomyolysis. Notably, during the 2009 H1N1 influenza outbreak, a report showed that 62% of patients with influenza A associated pneumonia were reported to have elevated CK levels (7).

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References

1. Kim H, Webster RG, Webby RJ. 2018. Influenza Virus: Dealing with a Drifting and Shifting Pathogen. *Viral Immunol* 31:174-183.
2. Killingley B, Nguyen-Van-Tam J. 2013. Routes of influenza transmission. *Influenza Other Respir Viruses* 7 Suppl 2:42-51.
3. Anonymous. <https://www.cdc.gov/flu/hcp/clinical-signs/index.html>.
4. Nanduri RS, Karnath N, Gurram A, Ali A, Karnath B. 2025. Rhabdomyolysis secondary to Influenza A infection in a patient using antipsychotic and serotonergic agents: A case report. *SAGE Open Med Case Rep* 13:2050313x251392105.
5. Agarwal A, Kaplan J, Bahooora J, Keirn R. 2020. A CASE OF INFLUENZA A-INDUCED RHABDOMYOLYSIS RESULTING IN HEMODIALYSIS DEPENDENT RENAL FAILURE. *CHEST* 158:A468.
6. Anonymous. <https://www.omicsonline.org/peer-reviewed/rhabdomyolysis-in-the-context-of-infections-combining-the-elements-135294.html>.
7. Perez-Padilla R, de la Rosa-Zamboni D, Ponce de Leon S, Hernandez M, Quiñones-Falconi F, Bautista E, Ramirez-Venegas A, Rojas-Serrano J, Ormsby Christopher E, Corrales A, Higuera A, Mondragon E, Cordova-Villalobos Jose A. Pneumonia and Respiratory Failure from Swine-Origin Influenza A (H1N1) in Mexico. *New England Journal of Medicine* 361:680-689.