

COMPREHENSIVE INFLUENZA TESTING

Helping you provide better patient care



Providing Comprehensive Influenza Testing for your Providers and Members

Seasonal epidemics of influenza occur each year. Acute respiratory infections caused by influenza affect people of all ages, but are especially harmful to young children, the elderly, and those who are immunocompromised. Most of these infections are caused by influenza A and B and respiratory syncytial virus (RSV). Influenza is associated with severe complications, including bronchiolitis, pneumonitis, and even death.¹ In the United States, it is estimated that annual flu epidemics cause illness in 5% to 20% of the population and are associated with more than 200,000 hospitalizations, with annual flu-related deaths ranging from 3000 to 49,000 people.²



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Routine annual vaccination programs, targeted principally toward high-risk groups, as well as health care providers and other caregivers, are the primary means of preventing illness and serious complications from influenza types A and B. There is no vaccine available to prevent RSV infection.

During the peak period of the flu season, the diagnosis of influenza can often be inferred solely by the presence of the classic clinical triad of fever, cough, and myalgia. A variety of diagnostic tests are available to enable a more accurate differentiation of influenza from other respiratory pathogens (see Table 1 on reverse). These tests may be useful in assisting with:

- Rapid identification of patients who could benefit from specific anti-influenza therapy.
- Confirmation of the presence of influenza in a population that could benefit from antiviral prophylaxis.
- Establishment of the specific etiologic agent of pulmonary disease in critically ill individuals.
- Surveillance for the emergence of novel viruses.

Table 1 — Available Methodologies for Diagnosing Influenza

Methodology	Test Name	Number	Utility/Limitations
Multiplex polymerase chain reaction (PCR)	Respiratory Virus Panel (RVP), PCR	139250	<ul style="list-style-type: none"> • Detects influenza A, influenza B, RSV A, RSV B, parainfluenza 1, parainfluenza 2, parainfluenza 3, rhinovirus, metapneumovirus, and adenovirus • Subtypes influenza A virus (H1, 2009 H1 and H3) and adenovirus B/E and C
Real-time reverse-transcriptase polymerase chain reaction (RT-PCR)	Influenza A and B, Real-time RT-PCR	186221	<ul style="list-style-type: none"> • Confirm presence of influenza A or influenza B
	Influenza A and B, Real-time RT-PCR With Reflex to Influenza A, H1N1 (Novel)	186270	<ul style="list-style-type: none"> • Subtypes influenza A virus as H1N1 (novel) subsequent to confirmation of presence of influenza A • Valuable for continuing public health surveillance • Detects influenza B
	Influenza A, Real-time RT-PCR, H1N1 (Novel)	186205	<ul style="list-style-type: none"> • Subtypes influenza A virus as H1N1 (novel) • Valuable for continuing public health surveillance • This test is best used on specimens already shown to be positive for influenza A virus by another valid test method.
Culture	Viral Culture, Rapid, Influenza A and Influenza B Virus	186023	<ul style="list-style-type: none"> • Shell-vial (centrifugation enhanced) culture method with fluorescent-Ab staining • Considerably faster results than conventional tube culture
	Viral Culture, Rapid, Respiratory (influenza A & B, RSV, parainfluenza 1, 2, 3, adenovirus)	186015	<ul style="list-style-type: none"> • Virus available for further analysis if necessary • Simultaneous detection of multiple respiratory viruses possible • Sensitivity potentially compromised by loss of viral infectivity during sample transit
Antigen detection by enzyme immunoassay (EIA)	Influenza A & B, Direct Immunoassay	186064	<ul style="list-style-type: none"> • Rapid, simple, method for detecting and differentiating influenza A and B • Only modest sensitivity versus either culture or PCR • Positive predictive value is good³; useful for making prompt therapeutic decisions
Serology	Influenza A & B Antibodies, Quantitative (Complement Fixation)	096487	<ul style="list-style-type: none"> • Primarily used in epidemiological investigations, limited clinical value • Testing of acute and convalescent sera provide most accurate information

References

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2. Centers for Disease Control and Prevention. Influenza: The disease. Available at: www.cdc.gov/flu/about/qa/disease.htm. Accessed May 17, 2013.
3. Grijalva CG, Poehling KA, Edwards KM, et al. Accuracy and interpretation of rapid influenza tests in children. *Pediatrics.* 2007;119:e6-e11.



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