

DIAGNOSIS AND TREATMENT OF INFLUENZA IN CHILDREN: 2009

Update from Le Bonheur Division of Pediatric Infectious Diseases, and the
Methodist/Le Bonheur Virology and Molecular Diagnostics Laboratories
9/9/09

On August 28, 2009, we published guidelines for diagnosis, treatment and prophylaxis of influenza in children (<http://lebonheur.org/static/files/1251477695012/influenza-diagnosetreatment.pdf>).

During the past two weeks we have observed a large increase in the number of children presenting to Le Bonheur with suspected and confirmed influenza, including several children with secondary bacterial pneumonia. In addition, the CDC has published a summary of 36 pediatric deaths associated with infection with the novel H1N1 virus (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5834a1.htm>) and highlighted the important contribution of secondary bacterial pneumonia to these deaths, particularly in otherwise-healthy school-aged children. The CDC has also published updated guidelines for antiviral treatment and prophylaxis of influenza which include both age and weight-based options for oseltamivir dosing in young infants (<http://www.cdc.gov/h1n1flu/recommendations.htm>).

We write to emphasize the following points:

(1) Initiation of antiviral therapy for children with influenza-like illness should be based on clinical presentation and should not be delayed for a confirmatory test.

Most patients with suspected influenza do NOT require specific diagnostic testing. The available rapid antigen tests have very poor sensitivity and a negative test does not rule out influenza.

Thus we recommend that diagnostic testing (as detailed in our previous guidance) primarily be performed for children hospitalized with suspected influenza. Testing also may be useful for certain high-risk patients (including young infants) but only if negative test results are not interpreted as evidence that influenza is “ruled out”.

(2) Antiviral treatment with oseltamivir or zanamavir is recommended for all hospitalized children with suspected or confirmed influenza, for all children at high-risk for complications of influenza, and for all severely ill children. The high-risk group of patients includes children less than 5 years of age, children with chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, cognitive, neurologic/neuromuscular, hematological or metabolic disorders (including diabetes mellitus); children who are immunosuppressed (including immunosuppression caused by medications or by HIV infection); children receiving long-term aspirin therapy who might be at risk for experiencing Reye syndrome after influenza virus infection; residents of long-term care facilities; and pregnant patients. Morbidly obese patients also appear to be at higher-risk.

Treatment may be considered for all patients with symptomatic influenza infection. While treatment is most effective when begun earlier (especially within 48 hours of symptom onset), treatment may offer benefit later in the illness, particularly in hospitalized, severely ill, and high-risk patients, and is recommended in these settings.

(3) Antiviral Prophylaxis: Chemoprophylaxis with oseltamivir or zanamavir is recommended for close contacts of patients with suspected or confirmed cases of novel H1N1 infection who are either (A) at high-risk (see above) of complications of influenza, or (B) health care workers with unprotected exposures to these patients.

Antiviral prophylaxis is NOT routinely recommended for otherwise healthy children who are not in a high-risk group. In these patients antiviral treatment may be instituted if an acute respiratory illness develops.

(4) Secondary Bacterial Pneumonia. Secondary bacterial pneumonia (and/or bacterial sepsis) is a potentially life-threatening complication of influenza and is usually caused by *Staphylococcus aureus* (including MRSA), *Streptococcus pneumoniae*, or *Streptococcus pyogenes*. Secondary bacterial pneumonia and/or bacterial sepsis should be suspected in any child with an influenza-like illness who has sudden worsening of symptoms or develops respiratory distress, chest pain, tachypnea, lethargy, etc.

Empiric therapy for suspected bacterial pneumonia complicating influenza should include antibiotics active against both staphylococci (including MRSA) and pneumococci. Most patients with suspected post-influenzal bacterial pneumonia should be referred to the hospital for evaluation and inpatient management. For hospitalized patients with post-influenzal bacterial pneumonia, we recommend empiric treatment with vancomycin, clindamycin and cefotaxime/ceftriaxone.

These recommendations will be updated as new data regarding the novel H1N1 influenza virus become available and as the TDH and/or CDC revise their recommendations.