



# County of Erie

CHRIS COLLINS  
COUNTY EXECUTIVE

Anthony J. Billittier IV, M.D., FACEP  
Commissioner of Health

DEPARTMENT OF HEALTH

HEALTH ALERT ADVISORY #271

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## PERTUSSIS CONTINUES IN NEW YORK STATE

*Please distribute to the Infection Control Department, Emergency Department, Employee Health Service, Infectious Disease Department, Director of Nursing, Medical Director, Laboratory Service, and all patient care areas.*

### SUMMARY

- Sporadic and small pertussis outbreaks continue to occur in New York State (NYS). Preliminary data for 2009 shows over 300 probable and confirmed cases. Reports of disease continue to be received in the first quarter of 2010.
- The New York State Department of Health (NYSDOH) has been notified of two high school students from different upstate counties who were diagnosed with pertussis after attending statewide competitive sports events in the month of March. The sporting events included an indoor track meet in Ithaca on March 5-6, 2010, and a hockey meet March 12-13, 2010, in Utica,
- Students who rode on the bus and roomed with the students have been notified of their exposure and recommended for post-exposure prophylaxis (PEP). Students attending the competitions but not on the same bus as the case have been informed of the potential exposure and asked to seek care if symptoms develop.
- We are asking providers to consider pertussis when seeing patients with compatible illness, particularly patients with a history of attending statewide competitive sports events and to immediately report suspect cases to the local health department (LHD) and institute appropriate infection control measures.
- Providers should ensure that all patients are vaccinated according to the current recommendations for tetanus, diphtheria, and acellular pertussis (DTaP or Tdap).

### BACKGROUND

The NYSDOH was notified by Dutchess County Department of Health of a high school student clinically diagnosed on March 8, 2010, with pertussis and confirmed by PCR on March 17, 2010. The student attended school while infectious and traveled by chartered bus to a statewide indoor track meet in Ithaca on March 5-6, 2010. This bus contained students from several schools in Dutchess, Putnam, and Westchester Counties. The student was also seen on March 9, 2010, at an emergency department (ED) for an apnea event. The student was put in isolation upon arrival to the ED.

Dutchess County has notified close family and school contacts and is working with the hospital to identify and treat personnel who had contact with the case during the ED visit. The school sports director has provided a list of students who rode on the bus and roomed with the student at the track meet. These contacts have been notified of their exposure and recommended for post-exposure prophylaxis (PEP) according to the county of

their residence. The statewide track meet has been notified about the illness, provided a letter for distribution and encouraged to notify all participants of the potential exposure. The letter informed participants about the pertussis exposure and advised them to seek care if symptoms develop.

Essex County Public Health reported a case of confirmed pertussis on March 20, 2010. The high school student developed symptoms on March 11, 2010, and attended a statewide hockey meet March 12-13, 2010, in Utica, NY. Essex and Clinton County are conducting a joint case investigation because the team included players from both localities. The students who traveled on the bus and roomed together have been identified and notified of their exposure and recommended for PEP by the county of their residence. The statewide hockey association has been notified of the illness, provided a letter for distribution and encouraged to notify all participants of the potential exposure as above.

NYSDOH is asking providers to consider pertussis when seeing patients with compatible illness, particularly if they attended these meets. Suspect cases should be immediately reported to the LHD where the patient resides, and appropriate infection control measures should be instituted immediately. Reports should be made at the time of initial clinical suspicion. If the diagnosis of pertussis is being considered and diagnostic testing for pertussis is ordered, then the case should be reported at that time.

## **CLINICAL AND DIAGNOSTIC INFORMATION**

Pertussis is a highly communicable, vaccine-preventable disease that lasts for many weeks and is typically manifested in children with paroxysmal spasms of severe coughing, whooping, and posttussive vomiting.

The attack rate for pertussis is between 70% and 100% among susceptible household contacts. Transmission occurs by direct or airborne contact with respiratory droplets, or by direct contact with objects contaminated with respiratory secretions from infectious individuals. The period of communicability is from the onset of symptoms to 21 days after the onset of cough.

Major complications are most common among infants and young children and include hypoxia, apnea, pneumonia, seizures, encephalopathy, and malnutrition. Young children can die from pertussis and 10 children died in the United States in 2007. Most deaths occur among unvaccinated children or children too young to be vaccinated.

Testing for pertussis is most reliable when performed early in the course of the illness and prior to the initiation of antibiotic treatment. Testing must be done on nasopharyngeal specimens obtained by using *Dacron*, NOT cotton swabs. A pharyngeal or throat swab is not acceptable for pertussis testing.

Acceptable diagnostic methods for pertussis include polymerase chain reaction (PCR) and culture. PCR testing of nasopharyngeal aspirates or swabs is a rapid, sensitive, and specific method for diagnosing pertussis. It is available at NYSDOH's Wadsworth Center as well as other approved laboratories.

Culture for *Bordetella pertussis* is performed on special media culture and its fastidious growth requirements make it hard to isolate. Specimens obtained within 3 weeks of cough onset have a higher proportion of culture-positive results. Prior antibiotic treatment or a history of vaccination may interfere with culture growth.

**Direct fluorescent antibody (DFA) and serology are not reliable testing methods. Neither is recommended for the diagnosis of pertussis.**

## **TREATMENT AND PROPHYLAXIS**

Antibiotics given during the catarrhal stage may lessen the severity of the disease and decrease communicability. Treatment after the third week of cough is of questionable benefit. Persons with pertussis are considered non-infectious after having completed 5 days of any of the appropriate antibiotics or if at least 21 days have elapsed since the onset of cough. The macrolide agents erythromycin, clarithromycin, and azithromycin are preferred for the treatment of pertussis in persons aged  $\geq 1$  month. For infants aged  $< 1$  month, azithromycin is preferred; erythromycin and clarithromycin are not recommended. For treatment of persons aged  $\geq 2$  months, an alternative agent to macrolides is trimethoprim-sulfamethoxazole.

Prophylaxis of all household members and other close contacts with antibiotics may prevent or minimize transmission. The same antibiotic regimens and doses described above for treatment are used for prophylaxis.

## **REPORTING OF CONFIRMED OR SUSPECT CASES**

All suspect, probable, or confirmed pertussis cases must be reported to the local health department in the county in which the individual resides. For Erie County residents, please call the Erie County Department of Health at **(716) 858-7697** (Monday – Friday 8:30 AM – 4:30 PM).

## **VACCINE**

Combination vaccines used to prevent diphtheria; tetanus and pertussis include DTaP and Tdap. DTaP is given to children younger than 7 years of age and Tdap is given to older children over the age of 10 and adults.

## **ADDITIONAL INFORMATION**

For general information on pertussis from the CDC:

<http://www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm>

Complete clinical information including recommendation for proper laboratory testing is available at:

<http://www.cdc.gov/vaccines/pubs/surv-manual/chpt10-pertussis.htm#7>

Current treatment information is available at:

Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis; 2005 CDC guidelines. MMWR 2005;54(No. RR-14).

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm>

Vaccine recommendations are available by accessing:

Pertussis Vaccination: Use of Acellular Pertussis Vaccines Among Infants and Young Children  
Recommendations of the Advisory Committee on Immunization Practices (ACIP)

<http://www.cdc.gov/mmwr/PDF/rr/rr4607.pdf>

Preventing tetanus, diphtheria, and pertussis among adults; use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP) and recommendation of ACIP, supported by the Healthcare Infection Control Practices Advisory Committee (HICPAC), for use of Tdap among health care personnel.

<http://www.cdc.gov/mmwr/PDF/rr/rr5517.pdf>

Preventing tetanus, diphtheria, and pertussis among adolescents; use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP).

<http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf>

**Health Category Definitions:**

**Health Alert FLASH:** conveys the highest level of importance due to a large-scale, catastrophic public health emergency; warrants immediate action or attention

**Health Alert Priority:** conveys the highest level of importance; warrants immediate action or attention to a health problem or situation

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action

**Health Update:** provides updated information regarding an incident or situation; no immediate action necessary

The ECDOH Health Alert & Advisory System is an e-mail notification system designed to alert community partners about important health related information. **You can sign up to receive alerts & advisories at [www.erie.gov/health/services/health\\_professionals.asp](http://www.erie.gov/health/services/health_professionals.asp).**

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