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The Iowa Department of Public Health hereby issues the following PUBLIC HEALTH BULLETIN pursuant to the authority granted by Iowa Code section 135.11(1), (2) and (3).

Background

Pertussis (whooping cough) is endemic in the United States often with epidemic cycles every 3-4 years. In 2004, there was a national epidemic with the annual number of reported cases the highest since 1959.

Pertussis Case Definition approved by CDC and the Council of State and Territorial Epidemiologist (CSTE)

Clinical Case

A cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory “whoop”, or posttussive vomiting, and without other apparent cause (as reported by a healthcare professional).

Case Classification

Confirmed:

- An acute cough illness of any duration associated with *B. pertussis* isolation, or
- A case that meets the clinical case definition and is confirmed by PCR, or
- A case that meets the clinical definition and is epidemiologically-linked directly to a case confirmed either by culture or PCR.

Probable: Meets the clinical case definition, is not laboratory confirmed, and is not epidemiologically-linked to a laboratory confirmed case.

Pertussis Testing

Determining who has pertussis and who does not is often difficult, even in outbreaks. Whenever possible, all suspected cases of pertussis should have a nasopharyngeal swab or aspirate obtained for polymerase chain reaction (PCR).

Persons who do not have symptoms consistent with pertussis should not be tested.

PCR testing should be used for laboratory confirmation. Although serology may have a role in the future, the lack of standardization of these antibody tests and their unknown correlation with pertussis illness limits their current usefulness.

Laboratory Testing Services

Nasopharyngeal swab testing kits consisting of slides, media and swabs in mailing containers can be ordered from the University Hygienic Laboratory at (319) 335-4500. Clinicians should make the diagnosis on the basis of lab test, in conjunction with epidemiologic findings and clinical findings such as persistent cough, whoop or post-tussive vomiting.

Outbreak Investigation

1. Pertussis follow-up and case investigation is undertaken by the local public health agency (LPHA) and coordinated, if necessary, with the IDPH, Bureau of Disease Prevention and Immunization.
2. Following notification, the LPHA is responsible for conducting pertussis follow-up.
 - Contact the Bureau of Disease Prevention and Immunization for questions and assistance with case investigation (1-800-831-6293).
 - Pertussis is a reportable disease. To report a case of pertussis contact the IDPH, Centers for Acute Disease Epidemiology at (1-800-362-2736).

Routine case investigation, controlling further spread, treatment of cases, protection of contacts, antibiotics used for treatment and prevention as well as managing special situations are outlined in the pertussis chapter of the Epi-Manual.

The EPI-Manual is available at www.idph.state.ia.us/idph_universalhelp/main.aspx?system=IdphEpiManual
Iowa's guidelines are consistent with the Centers for Disease Control and Prevention (CDC) guidelines for the Control of Pertussis Outbreaks. www.cdc.gov/nip/publications/pertussis/guide.htm

Control measures are usually implemented after the first laboratory confirmed case. However, lab confirmation is not necessary to implement control measures for each subsequent case (i.e. symptomatic contacts of laboratory confirmed cases).

Do not wait for an individual to meet the case definition to implement control measures.

The risk for secondary transmission of pertussis should be evaluated on a case-by-case basis and decisions to recommend prophylaxis should be based on infectiousness of the case, transmission setting, risk for transmission to others, and risk status of the contacts. Transmission can be expected with direct face-to-face (within three feet) with a symptomatic case for an undefined period of time. Each situation should be evaluated separately and exposure defined based on information acquired through the investigation.

Pertussis Vaccines

Recently two new vaccines (Tdap) were licensed by the Food and Drug Administration (FDA) to provide protection against tetanus, diphtheria, and pertussis. The Advisory Committee on Immunization Practices (ACIP) voted to recommend routine use of these products for adolescents. Guidelines for use are available at www.cdc.gov/nip/vaccine/tdap/default.htm. Close contacts to a case of pertussis are treated/prophylaxed with antibiotics regardless of their immunization status.

Summary of oral macrolide treatment and prophylaxis for pertussis by age group

Age Group	Erythromycin (14-day course)	Clarithromycin (7-day course)	Azithromycin (5-day course)
6 months through adult	40-50 mg/kg/day in 4 divided doses (maximum 2 gm/day) X 14 days	15 mg/kg/day in 2 divided doses (maximum 500mg/dose) X 7 days	10 mg/kg/day in single dose on day 1 then 5mg/kg/day on Days 2-5 (maximum 500mg/day Day 1) (maximum 250mg/day Day2-5)
1-5 months	As above (estolate preparation preferred if available)	As above	10mg/kg/day in single daily dose X 5 days
<1 month	As above (Use as alternate drug in doses above. Drug use is associated with elevated risk of IHPS)	Not recommended (Safety data unavailable)	Preferred drug. 10mg/kg/day in a single daily dose X 5 days Only limited safety information available.

TMP-SMZ may be used as an alternative agent in patients who are allergic to macrolides, who cannot tolerate macrolides, or who are infected, rarely, with a macrolide-resistant strain of *Bordetella pertussis*.

The recommended dose in children is trimethoprim 8 mg/kg/day, sulfamethoxazole 40 mg/kg/day in two divided doses for 14 days. For adults, the recommended dose is trimethoprim 320 mg/day, sulfamethoxazole 1600 mg/day in two divided doses for 14 days. Because of the risk of kernicterus, TMP-SMZ should not be given to pregnant women, nursing mothers, premature neonates, or infants <2 months of age