

STANDARD NURSE PROTOCOL FOR PREVENTIVE TREATMENT OF PERTUSSIS CONTACTS

NOTE: Public Health Nurses must work closely with the local communicable/infectious disease coordinator (or other official) who is monitoring reported pertussis cases and contacts to ensure that all contacts have been identified and treated.

DEFINITION

Pertussis is a bacterial infection of the upper respiratory tract that can progress to severe paroxysms of coughing, often with a characteristic respiratory whoop, followed by vomiting. Fever is absent or minimal.

Transmission of pertussis is by close contact with respiratory tract secretions of an infected person, who is most contagious before onset of the paroxysmal cough. Macrolide therapy for cases decreases infectivity and may limit spread.

Up to 90% of non-immune household contacts acquire the disease. Immunity wanes over time and adolescents and adults become an important reservoir of infectious organisms. They are often the source of infection for infants, who are at the greatest risk of complications with permanent sequelae.

ETIOLOGY

The bacillus *Bordetella pertussis*. A whooping cough syndrome may also be caused by other organisms, with *Bordetella parapertussis* causing an appreciable portion of clinical cases of pertussis, especially milder cases. In some cases both organisms may be present.

SUBJECTIVE

1. History of recent close contact (e.g., household, day care) to:
 - a. A case of pertussis that has been laboratory-confirmed by a positive culture or polymerase chain reaction assay for *Bordetella pertussis*
 - OR**
 - b. A presumptive case of pertussis with a positive direct fluorescent antibody (DFA) test.
2. May or may not have a history of adequate immunization against pertussis.
3. No upper respiratory symptoms.
4. No history of allergy or other contraindications to taking the prophylactic medications. (See Drug Interaction Chart on page 12.25.)

OBJECTIVE

No signs of upper respiratory illness.

NOTE: Refer clients with upper respiratory signs to a physician.

ASSESSMENT Candidate for pertussis prophylaxis.

PLAN THERAPEUTIC

1. Chemoprophylaxis
 - a. Erythromycin (preferably the estolate form):
NOTE: Do not give in hepatic dysfunction or pre-existing liver disease.
 - 1) Child (not preferred agent for infants less than 1 month due to infantile hypertrophic pyloric stenosis): Erythromycin 40 - 50 mg/kg (maximum of 2 g) PO daily; give in divided doses every six hours for 14 days.
 - 2) Adult: Erythromycin 500 mg PO every six hours for 14 days.

OR
 - b. Azithromycin
 - 1) Child 6 months of age or older: Azithromycin 10 mg/kg (maximum of 500 mg) PO in a single dose on day 1, then 5 mg/kg (maximum 250 mg/day) PO once daily for 4 days.
 - 2) Children **less than** 6 months: Azithromycin 10 mg/kg for 5 days.
 - 3) Adult: Azithromycin 500 mg PO in a single dose on day 1, then 250 mg PO once daily for 4 days.

OR
 - c. Trimethoprim/sulfamethoxazole
NOTE: Give only if client cannot take others listed. Do not give if pregnant, breastfeeding, has pre-existing liver disease or is allergic to sulfa drugs.
 - 1) Child **over** 6 months of age: Trimethoprim/sulfamethoxazole (8 mg/40 mg)/kg/day PO, in two divided doses every 12 hours for 14 days.
 - 2) Adult: Trimethoprim/sulfamethoxazole 160 mg/800 mg PO twice daily for 14 days.
2. Immunization
Initiate or continue the pertussis immunization schedule for contacts. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at <http://www.health.state.ga.us/programs/immunization/publications.asp>.

CLIENT/CARETAKER EDUCATION/COUNSELING

1. All close contacts need to take the medication, regardless of age or immunization status, because pertussis immunity is not absolute and may not prevent infection.
2. The importance of compliance with the medication regimen and completing the full course of treatment. (Assist the client/caretaker to develop a written plan for taking, or administering, the medication so coverage is as close to around-the-clock as possible.)
3. Notify the clinician if apparent side effects to the medication develop (e.g., if nausea, vomiting, diarrhea, severe abdominal pain, or symptoms of hepatitis occur during the course of erythromycin therapy).
4. Seek medical care if develop symptoms of respiratory illness within 20 days (maximum incubation period) of the last exposure to the infected person.
5. Assure that unimmunized or incompletely immunized children under age 7 complete the vaccine series. Review current recommendations for individuals over age 7 years. See the Georgia Immunization Program Manual, Recommended Schedules and Guidelines, for vaccine information and vaccine administration guidelines at <http://www.health.state.ga.us/programs/immunization/publications.asp>.
6. Avoid aluminum or magnesium containing antacids 2 hours before and up to 2 hours after taking the macrolide product.

CONSULTATION/REFERRAL

1. Refer all exposed infants **less than** 6 months of age to a physician.
2. Refer all contacts with respiratory signs/symptoms to a physician.
3. Consult with a physician or refer clients unable to take any of the above medications or who have serious side effects.

REFERENCES

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2. CDC, *Epidemiology & Prevention of Vaccine-Preventable Diseases*, 10th ed., Atlanta, GA, January 2008, pp. 81-99.
3. David L. Heymann, *Control of Communicable Diseases Manual*, 19th ed., American Public Health Association, Washington, DC, 2008 **(Current)**.
4. **Sarah Long, "Pertussis," Kliegman: *Nelson Textbook of Pediatrics*, 18th ed., Chapter 194, W. B. Saunders Company, 2007, <www.mdconsult.com> (May 4, 2009).**
5. Epidemiology Unit, Georgia Division of Public Health, *Notifiable Disease Manual*.
6. American Society of Health-Systems Pharmacists, *American Hospital Formulary Services*, 2009, pp. 226-242, 244-261, 434-442.
7. CDC, "Recommended Antimicrobial Agents for the Treatment and Postexposure Prophylaxis of Pertussis," *MMWR*, December 2005 **(Current)**.
8. "Facts and Comparisons," *Facts and Comparisons 4.0 Online*, Wolters Kluwer Health, Inc., 2009, <<http://online.factsandcomparisons.com>> **(May 6, 2009)**.
9. "Lexi-Drugs Online," *Lexi-Comp Database*, Lexi-Comp, Inc., Hudson, Ohio **(May 6, 2009)**.