

A 4-year-old girl is diagnosed with *Bordetella pertussis* infection after an outbreak at her day care center. She has paroxysmal coughing fits and is prescribed a course of macrolide antibiotics. The girl lives with her 30-year-old parents and 1-year-old sister. Her family members have up-to-date immunizations and are asymptomatic. What is the most appropriate way to limit the risk of infection in household contacts?

- ☐ A. Administer pertussis immunization to all household contacts
- ☐ B. Administer pertussis immunization to the parents only
- ☐ C. Hospitalize the patient until symptoms resolve
- ☐ D. Prescribe a macrolide antibiotic for the sister
- ☐ E. Prescribe a macrolide antibiotic for all household contacts
- ☐ F. Prophylaxis for close contacts is not required

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- ☐ A. Administer pertussis immunization to all household contacts [15%]
- ☐ B. Administer pertussis immunization to the parents only [3%]
- ☐ C. Hospitalize the patient until symptoms resolve [3%]
- ☐ D. Prescribe a macrolide antibiotic for the sister [11%]
- ☒ E. Prescribe a macrolide antibiotic for all household contacts [45%]
- ☐ F. Prophylaxis for close contacts is not required [22%]

[Proceed to Next Item](#)**Explanation:**

User Id: [REDACTED]

Pertussis treatment & post-exposure prophylaxis	
Age <1 month	Azithromycin x 5 days
Age ≥1 month	Azithromycin x 5 days OR Clarithromycin x 7 days OR Erythromycin x 14 days

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Pertussis is a **highly contagious** disease and transmission occurs by spread of respiratory droplets. The recommended first-line treatment is a macrolide antibiotic. Treatment during the catarrhal stage may help shorten the course of illness; treatment in the latter stages will not shorten the disease duration but will reduce transmission.

Although immunization can prevent 70%-90% of cases of pertussis, natural infection and

OR
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Although immunization can prevent 70%-90% of cases of pertussis, natural infection and vaccination confer only transient protection as immunity wanes over time. Despite immunization, many exposed household contacts will develop some symptoms of pertussis. Therefore, **prophylaxis** is recommended for **all close contacts** despite vaccination status. **Macrolides** are also the preferred antibiotics for prophylaxis. Contacts age ≥ 1 month should receive azithromycin, erythromycin, or clarithromycin. Those age < 1 month should receive only azithromycin for 5 days as erythromycin use in neonates is associated with pyloric stenosis and safety data of clarithromycin are not available. In addition to prophylaxis, household contacts who are not fully immunized should receive the pertussis vaccination according to the recommended immunization schedule.

(Choices A and B) Acellular pertussis vaccine is given to all children in 5 doses along with diphtheria and tetanus vaccines. Three doses are given in infancy (at 2, 4, and 6 months), one at 15-18 months, and the last at 4-6 years. Booster doses are given in adolescence and again in adulthood. Additional immunization is not necessary when contacts are already fully immunized.

(Choice C) Respiratory isolation is necessary only during the first 5 days of antibiotic therapy. This patient should be kept at home and excluded from day care and school. Hospitalization is indicated in infants < 3 months (due to high risk of apnea) or any patient with severe paroxysms that impair feeding or are complicated by pneumonia, seizures, or other comorbidities.

(Choices D and F) Antibiotic prophylaxis should be prescribed for all household contacts.

Educational objective:

Macrolides are the antibiotics of choice for pertussis treatment and post-exposure prophylaxis. All close contacts should be given a macrolide antibiotic regardless of age, immunization status, or symptoms.

References:

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References:

1. [Postexposure prophylaxis for common infectious diseases.](#)