



## ***B. parapertussis* Infection: Public Health Recommendations**



### **Pathogen**

*Bordetella parapertussis* is a bacterium that is similar to *B. pertussis* and causes a pertussis-like illness, but does not produce pertussis toxin.

### **Clinical symptoms**

The symptoms of *B. parapertussis* infection are similar to those of pertussis (whooping cough) but are typically milder and infection may be asymptomatic. Studies have shown that persons with *B. parapertussis* infection may have prolonged cough, paroxysmal cough, whoop and vomiting, however these symptoms occur less frequently and for shorter duration than is typically seen with pertussis. Young infants (e.g., <6 months of age) may have a more severe course of parapertussis than older persons. Rarely, death can occur in infants with underlying health problems or in infants with *B. pertussis* coinfections (persons may be infected with *B. pertussis* and *B. parapertussis* at the same time).

### **Incidence of disease**

It is estimated that 1% to 35% of known *Bordetella* infections are caused by *B. parapertussis*. Outbreaks are known to occur and have been reported recently in California.

### **Modes of transmission**

Transmission typically occurs when a susceptible person inhales aerosolized droplets from the respiratory tract of an infected person. Transmission via contact with fomites is thought to occur rarely, if ever.

### **Incubation period**

The incubation period is likely to be similar to that of pertussis: 7-10 days (range 5-21 days).

### **Period of communicability**

Persons with parapertussis are likely to be most infectious shortly after disease onset and for up to three weeks if no treatment is given. Communicability ends after 5 days of treatment.

### **Other *Bordetella* species**

*B. bronchiseptica* and *B. holmseii* can also infect humans. *B. bronchiseptica* primarily affects immunocompromised people and *B. holmseii* can cause chronic cough in healthy people. Infected people should be referred to an infectious disease specialist.

### **Laboratory diagnosis**

*B. parapertussis* can be distinguished from *B. pertussis* via culture or PCR if a multi-target PCR assay is used that can detect insertion sequence elements (IS1001) specific to parapertussis.

### **Case definition**

There is no specific case definition for *B. parapertussis* infection because it is not a nationally notifiable disease and is not reportable in California. However, outbreaks of *B. parapertussis* infection should be reported to CDPH.

### **Case management**

There are no national guidelines for the treatment or public health management of *B. parapertussis* infection. However, because young infants may be at risk for severe *B. parapertussis* disease, it is recommended that infants <6 months of age and people in contact with young infants who have confirmed *B. parapertussis* infection be treated in an attempt to reduce disease severity and shorten the infectious period.

Limited data suggest that *B. parapertussis* is susceptible to macrolides and trimethoprim-sulfamethoxazole and can be treated similarly to *B. pertussis*. Current treatment recommendations are available at:

[http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHPertussisQuicksheet\(3\)201010.pdf](http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHPertussisQuicksheet(3)201010.pdf)

Persons with *B. parapertussis* infection should avoid contact with young infants until they have received five days of treatment.

### **Postexposure prophylaxis (PEP)**

Chemoprophylaxis of contacts within 2-3 weeks of cough onset of the index case should be considered for contacts at high risk for severe parapertussis disease. These contacts include: infants <6 months of age (particularly premature infants) and persons in contact with infants <6 months of age, including healthcare personnel. Starting PEP  $\geq 3$  weeks after exposure to an infectious case is probably of no benefit to the contact.

### **Vaccination**

There is no vaccine for *B. parapertussis*; *B. pertussis* vaccines are thought to offer little or no protection against *B. parapertussis* infection.