

Pertussis Information Sheet - Updated 9 06 06

Organism	<ul style="list-style-type: none"> • Gram negative rod bacterium - <i>Bordetella pertussis</i> • <i>Bordetella parapertussis</i> causes parapertussis
Route of Infection	<ul style="list-style-type: none"> • Person-to-person by aerosolized droplets via coughing or sneezing • Contact with secretions
Communicability	<ul style="list-style-type: none"> • Highly contagious; 80% secondary attack rates among susceptible persons • Most infectious during catarrhal period and first 2 wks after cough onset
Pathogenesis	TOXIN-MEDIATED DISEASE - Organism attaches to nasopharyngeal cells, proliferates and spreads to tracheal and bronchial ciliated cells, killing them. Virulence factors (e.g., pertussis toxin) cause clinical characteristics. Can cause pneumonia and respiratory failure.
Epidemiology	<ul style="list-style-type: none"> • May occur among persons at any age regardless of vaccination status • Approx 40% of reported pertussis cases are among children aged < 5years • In recent years, increasing proportion of cases reported among adolescents and adults
Prevention and Control of Outbreaks	<ul style="list-style-type: none"> • 5 doses of acellular pertussis vaccine (DTaP) recommended for children < 7yrs old (Given at 2, 4, 6, & 15-18 months of age; 5th dose given at 4-5 yrs old) • Single booster dose vaccine (Tdap) for adolescents or adults available • During an outbreak, antimicrobial prophylaxis of household and other close contacts is the primary method used to prevent secondary cases • Because pertussis can be severe among infants, prophylaxis is especially important in this age group • Exclude lab-confirmed and clinical cases from work or school until completion of five days of antimicrobial therapy to prevent secondary cases
Definition of Close Contact	During catarrhal period and up to 21 days after onset of cough, persons who have: <ul style="list-style-type: none"> • Direct face-to-face contact ≥ 1 hour total/week with a symptomatic case • Shared confined space in close proximity for > 10 hours/wk with a symptomatic case • Direct contact with respiratory, oral or nasal secretions from a symptomatic case
Immunity	<ul style="list-style-type: none"> • Immunity wanes 5-10 yrs following vaccination • Immunity following natural infection is long lasting but may wane over time • Maternal antibodies are insufficient to protect against pertussis
Incubation Period	7-10 days (range 4-21 days)
Symptoms – <i>Period 1 - Catarrhal</i> <i>Period 2 – Paroxysmal</i> <i>Period 3- Convalescent</i>	Pd 1 – Coryza with intermittent non-productive cough (lasts 1-2 wks) Pd 2 – Episodes of paroxysmal coughing; post-tussis vomiting; worse at night; pneumonia more common among infants (lasts 1-6 wks) Pd 3 – Cough paroxysms gradually decrease in intensity (lasts 1-2 wks)
Differential Diagnosis	Adenoviruses, <i>Mycoplasma pneumoniae</i> , <i>Chlamydia pneumoniae</i> , RSV
Laboratory test (sample collection)	<ul style="list-style-type: none"> • DCLS (state public health lab) offers DFA, PCR, & culture (nasopharyngeal swab) • Contact health department for coordination of testing
Prophylactic and Treatment Regimen	<i>Treatment may modify symptoms if given in early stage of disease. If given late, may not reduce symptoms but will prevent secondary spread.</i> <ul style="list-style-type: none"> • Azithromycin x 5 days (Adults: 500 mg PO QD X 1 day and then 250mg PO QD X 4 days; Children ≥ 6 months: 10 mg/kg (max: 500 mg) PO X 1 day then 5 mg/kg (max: 250 mg) PO QD X 4 days; Children < 6 months: 10 mg/kg PO QD X 5 days – preferred agent for infants < 6 weeks of age; or, • Clarithromycin x 7 days (Adults: 500 mg PO BID; Children > 1 month: 15 mg/kg/day (max: 1g/day) divided BID); or, • Erythromycin X 14 days (Adults: 250-500mg PO QID; Children: 40-50 mg/kg/day (max: 2g) PO divided QID); or, • Trimethoprim (TMP)-sulfamethoxazole (SMZ) X 14 days (Adults: 160 mg/day TMP-800 mg/day SMZ PO BID; Children: 8 mg/kg/day TMP-40 mg/kg/day SMZ PO divided BID).
Please report cases of pertussis to your local health department	Henrico Health Department: Main Number -804-501-4522; District Epidemiologist – 804-501-5216; Communicable Disease Nurse - 804-501-4532; After hours call 1-866-531-3068

*Adapted from the Rappahannock-Rapidan Health District Pertussis Information Sheet