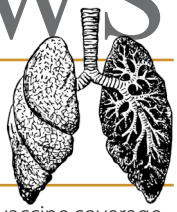
THE PATHCARE NEWS



PERTUSSIS (WHOOPING COUGH)

Pertussis is a highly infectious respiratory infection caused by *Bordetella pertussis*. It remains endemic in all countries, despite high vaccine coverage. Epidemic cycles are reported every 3 to 5 years. It affects people of all ages; however, young, unimmunised or partially immunised infants, are most vulnerable with the highest rates of complications and death.

An increase in cases of Pertussis has been noticed recently in some areas in the Free State and Northern Cape. Clinicians are advised to be on the alert for cases. Pertussis is a **Category 1 notifiable medical condition** in South Africa and all clinically suspected, as well as laboratory confirmed cases must be reported to provincial & district CDC coordinators and to the NICD. If the patient is in a healthcare facility, please notify the infection prevention and control practitioner. Clinicians should notify cases on the basis of clinical suspicion and not wait for laboratory confirmation.

Symptoms

Pertussis causes a wide range of symptoms which varies from person to person. The onset of disease is gradual and may be mild or severe. Symptoms usually appear 7 - 10 days after exposure; (range from 5 - 21 days). Classic pertussis, seen mostly in older infants and young children, start with flu-like symptoms including nasal congestion, runny nose, mild sore throat, mild dry cough, minimal fever. This period is highly communicable and infectious. The cough may become more severe, characterised by episodes of paroxysms followed by an inspiratory whooping sound and/or vomiting after coughing in the next 2 weeks. This paroxysmal cough may last 1-2 months and reduce in number and severity during convalescence. In neonates and infants (<3 months) cough may be absent and infants may present with apnoeic attacks or cyanosis. Prolonged coughing without the typical whoop usually persists for more than 2 weeks. Adolescents and adults who are previously vaccinated may also present differently with minimal symptoms such as a sore throat or cough persisting >2 weeks.

Laboratory identification of B. pertussis

Culture for *B. pertussis*	No longer widely available
Bordetella pertussis PCR	PCR is highly sensitive and can be used directly on clinical specimens to detect pertussis up to 4 weeks after the onset of cough. Bordetella pertussis PCR is available as part of the multiplex PCR panels: • BioFire® Respiratory Panel – available at many of the local PathCare laboratories (PMRESPBIOF / J5579) (TAT <24hrs) • Bacterial Respiratory PCR panel available at the PathCare Reference laboratory (include *Bordetella pertussis* and *Bordetella parapertussis*) (PMSRB / H5952) (TAT 24-48hrs) Specimen: Nasopharyngeal swabs (NPS), nasopharyngeal aspirates (NPA) or sputum samples
Bordetella pertussis IgM/ IgG	Serology can be of value in individuals who present late in the course of disease, when PCR is likely to be negative. Paired serum samples for specific anti-PT antibodies collected early in the catarrhal stage (acute serum) and about 1 month later (convalescent serum), can provide evidence of recent infection.

Management of a confirmed or probable case of pertussis:

1. Isolate:	Pertussis is transmitted via respiratory droplets from infected individuals and is most contagious during the early catarrhal stage. Prevent transmission by practising contact and droplet precautions until the diagnosis is excluded or adequate treatment has been administered. Patients remain infectious for 5 days after commencement of antibiotic therapy or, if untreated, 21 days after the onset of symptoms. Chronic carriage has not been described.
2. Provide supportive care:	Supportive care aims to monitor the severity of the patient's condition, limit the number of paroxysms and maximise nutrition, rest and recovery. Assistance should be provided in terms of oxygenation, breathing support and mechanical ventilation as necessary. Monitor infants for apnoea, cyanosis, or hypoxia, as well as fluid and nutritional status.
3. Treat with antibiotics:	Treatment is aimed at eradicating *B. pertussis* from cases to prevent secondary transmission. Antibiotics have a limited effect on the clinical course of illness, especially if administered beyond 2-3 weeks after symptom onset. Macrolides are highly effective at eradicating *B. pertussis* from the nasopharynx. Resistance is rare. Recommended antibiotics: Azithromycin, Clarithromycin or Erythromycin, Trimethoprim-sulphamethoxazole.
4. Post-exposure chemoprophylaxis for contacts:	Post-exposure prophylaxis should be administered to close and vulnerable contacts, regardless of age and vaccination status, within 21 days of onset of cough in the index case. The recommended antimicrobial agents and doses are the same for treatment and prophylaxis. Vaccinate close and vulnerable contacts appropriately (depending on vaccination status). • Children <7 years of age who are unimmunised or partially immunised should complete their DTaP vaccination schedule. • Individuals ≥7 years, including pregnant women >32 weeks' gestation, should receive a booster dose of an appropriate pertussis-containing vaccine (Tdap-IPV) if they have not been vaccinated in the last five years. Monitor contacts for at least 21 days for typical signs and symptoms.

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References:

1. Pertussis: NICD Recommendations for Diagnosis, Management and Public Health Response. Revised December 2018. www.nicd.ac.za/diseases-a-z-index/pertussis/