

An increase in pertussis cases has been reported in South Africa among children aged <5 years of age, and particularly amongst infants aged <1 year. Pertussis, commonly known as 'whooping cough' is a vaccine-preventable disease caused by *Bordetella pertussis* and is notifiable. Immunity following vaccination lasts for 5-6 years. Episodic increases in pertussis cases occur in vaccinated populations every 3-5 years. Clinicians are advised to be on the alert for cases, to conduct diagnostic testing where appropriate, to notify cases and prescribe post-exposure prophylaxis to close and high-risk contacts of suspected or confirmed cases. See NICD website for guidelines and other resources: [www.nid.ac.za](http://www.nid.ac.za)

### **Suspected case of pertussis:**

Any person with a cough lasting  $\geq 14$  days (cough illness of any duration for children aged <1 year), without an apparent cause, plus one or more of the following: paroxysms of coughing, inspiratory whoop, post-tussive vomiting, apnoea (with or without cyanosis; for infants aged <1 year only) **OR** any person in whom a clinician suspects pertussis infection

### **Probable case of pertussis:**

A suspected case with signs and symptoms consistent with pertussis **AND** an epidemiological link by contact with a laboratory-confirmed case of pertussis in the 21 days before symptom onset.

### **Confirmed case of pertussis:**

A suspected case with signs and symptoms consistent with pertussis **AND** laboratory confirmation (isolation of *B. pertussis* from a respiratory specimen **OR** PCR-positive respiratory specimen **OR** *B. pertussis*-specific antibody response)

### **Management of a confirmed or probable case of pertussis:**

1. **Isolate:** Prevent transmission of *B. pertussis* by practising contact and droplet precautions
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
3. **Treat with antibiotics:** Macrolide or suitable alternative to prevent transmission

### **Management of contacts of persons with pertussis:**

1. Identify close and vulnerable (at-risk of severe disease) contacts including health care workers
2. Collect nasopharyngeal swabs from symptomatic contacts
3. Administer targeted chemoprophylaxis to close and vulnerable contacts
4. Vaccinate close and vulnerable contacts appropriately (depending on vaccination status).
5. Monitor contacts for at least 21 days for typical signs and symptoms

### **Laboratory identification of *B. pertussis*:**

1. Sputum samples and/or nasopharyngeal swab/aspirate transported in Regan-Lowe (RL) or Amies charcoal transport medium.
  - a. Samples are streaked onto Regan-Lowe Charcoal agar containing cephalaxin and 10% defibrinated sheep blood.
  - b. All plates are incubated aerobically for up to 10 days at 35–37°C and inspected at day 3 and 7 after inoculation.
  - c. Typical colonies appear as small mercury-like glistening droplets. Suspicious colonies should be submitted to CRDM, NICD for confirmation.
2. Real-time PCR detection of *B. pertussis* (*IS481* and *ptxS1*) may be conducted on clinical specimens.
3. Paired serum samples for specific anti-PT antibodies collected during the early catarrhal stage (acute serum) and about 1 month later (convalescent serum). Serology should not be used for diagnosis in infants, as (i) their immune system is immature and serology is affected by maternal antibodies, or (ii) in patients vaccinated within one year, since serology does not differentiate between antibodies produced in response to vaccine and natural infection.

### **Notification of cases and additional support:**

**Laboratory support:** National Institute for Communicable Disease, Centre for Respiratory Diseases and Meningitis: Linda de Gouveia 011-555-0327 [lindad@nicd.ac.za](mailto:lindad@nicd.ac.za) or Nicole Wolter 011-555-0352 [nicolew@nicd.ac.za](mailto:nicolew@nicd.ac.za) or Mignon du Plessis 011-555-0387 [mignond@nicd.ac.za](mailto:mignond@nicd.ac.za) or after-hours, the NICD doctor-on-call 082 883 9920.

**Public Health support and notification of cases:** Notify the Provincial and District Communicable Diseases Control Officer and NICD as per routine notifiable medical condition notification process (<http://www.nicd.ac.za/index.php/nmc/>). If the patient is in a healthcare setting, the infection prevention and control practitioner for the facility should be informed.