THE DOCTORS LABORATORY

Service update: *Bordetella pertussis* diagnostic testing

Recommended tests for B. pertussis testing vary according to the length of time since cough onset, see table 1.

Time since onset of cough	Optimal test	Comments
< 14 days	Pertussis (Whooping Cough) by PCR – **PERP**	PCR = gold standard test. Culture lacks sensitivity, particularly after first week of illness
14-21 days	Pertussis (Whooping Cough) by PCR – **PERP**	PCR = gold standard test. Culture lacks sensitivity, particularly after first week of illness
> 21 days	Pertussis (Whooping Cough) Antibodies – **PERS**	Antibody levels can be confounded by recent vaccination.

Bordetella pertussis PCR

Molecular testing (PCR) is much more sensitive than culture for the detection of acute B. pertussis infection and is the gold-standard test in early infection (≤ 3 weeks duration).

Specimen type and collection container for PCR testing:

The optimal sample is a **dry pcr nasopharyngeal swab**:

- Preferably a pernasal swab obtained using a thin-wire flexible dry swab.
- If pernasal is not possible, a thin rigid dry swab can be used to collect sample from throat and/or nose (like covid testing).
- Dry swabs are processed on site at TDL with time to result of 2-3 days.

Container type	Swab image (example)	Impact on testing
Thin-wire flexible dry swab (orange lid dry 'ENT' swab) *		**Preferred swab type:** Allows sampling of nasopharynx = best yield Time to result 2-3 days
Thin rigid dry swab (eg. covid swab) *		Time to result 2-3 days

Alternative specimen type and collection containers for PCR

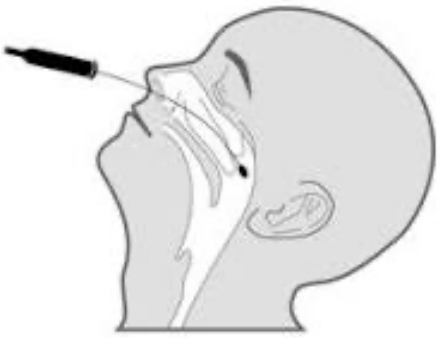
If dry swabs are not available, the following samples are acceptable:

- Swab taken from nose or throat, sent in Viral Transport Medium (VTM) or Universal Transport Medium (UTM)
- Naso-pharyngeal aspirate (NPA) in universal container
- These sample types cannot be tested on-site and, therefore, have a longer turnaround time.

*Please note images are typical examples of swabs but may vary between manufacturers

Collecting a Pernasal swab for *Bordetella pertussis* sampling

- Wear a mask and eye-protection because the patient it likely to cough.
- Gently push the flexible thin-wire swab along the floor of the nasal cavity until it reaches the nasopharynx.
- Hold the swab against the posterior wall of the nasopharynx for up to 30 seconds, or until the patient coughs.
- After removal, place the swab quickly into the swab container and send to the laboratory immediately.



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