Disease/Agent Suspected or Test Requested:  

**Bordetella pertussis (Whooping Cough)**

<table>
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<th>Provider Requirements</th>
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| Acceptable Specimen Sources/Type(s) for Submission | • Nasopharyngeal swab (polyester)  
  • Culture Isolate |
| TDH Requisition Form Number               | PH-4182 |
| Media Requirements                        | Use Regan-Lowe transport media or other appropriate media. |
| Special Instructions                      | See *Bordetella* species testing information sheet |
| Shipping Instructions                     | Ship COLD on cold packs |
| Laboratory Section Performing Testing     | Bacteriology |
| Lab Location(s) Performing Test           | Nashville |

**Bordetella species Testing Information**
Includes *B. pertussis* (whooping cough)

Specimens for isolation of *Bordetella pertussis* in suspected cases of whooping cough are accepted from public and private health care providers. Only **symptomatic** contacts of diagnosed cases of pertussis will be accepted for examination, since a carrier state in asymptomatic contacts has not been demonstrated as an important source of transmission.

*B. pertussis* and *B. parapertussis* are identified by Polymerase Chain Reaction (PCR). Samples identified as positive by PCR are confirmed by culture.

Reference cultures are accepted for confirmation of:
- *B. pertussis*
- *B. parapertussis*
- *B. bronchiseptica*

A properly obtained nasopharyngeal swab or aspirate is essential for optimal laboratory diagnosis of *Bordetella pertussis*. Using the chart below, optimal times of collection of specimens for Bordetella testing are listed.

PCR is a rapid test to provide timely diagnosis of pertussis. PCR and culture testing procedures will also detect *Bordetella parapertussis* and *Bordetella holmsenii*. To avoid false test results, only test patients with signs and symptoms of pertussis or whooping cough. Testing asymptomatic patients increases the likelihood of obtaining falsely-positive results. Whenever PCR results are **positive**, then **culture confirmation** for Bordetella is performed. To avoid false negative results the optimal culture collection times for positive results, is from 0 to 2 weeks after cough onset and 0 up to 4 weeks after cough onset for PCR procedures. The TDH Laboratory does not routinely provide serological testing for later stage screening for Bordetella.

![Optimal Timing for Diagnostic Testing](chart.png)

A kit containing the materials and instructions necessary for collecting a nasopharyngeal specimen is available from County/Regional Health Departments or Tennessee Department of Health (TDH) Laboratory. Do not order more kits than are needed. They contain culture medium with a short shelf life. Store refrigerated. Allow kit to come to room temperature for 15 minutes prior to use.

**The kit contains:**
- Instructions for collection of specimens
- 1 nasopharyngeal swab
- 1 tube of Regan-Lowe transport medium
- 1 cold pack in zip lock bag
- 1 TDH Mailing label (or send by courier service)

Proper technique for obtaining nasopharyngeal swab and aspirated specimens for PCR may be viewed at the following link: [http://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html](http://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html)