



# Hygienic Laboratory

*The University of Iowa*

## ***Bordetella pertussis* (BP, Whooping Cough)**

### Submission Requirements

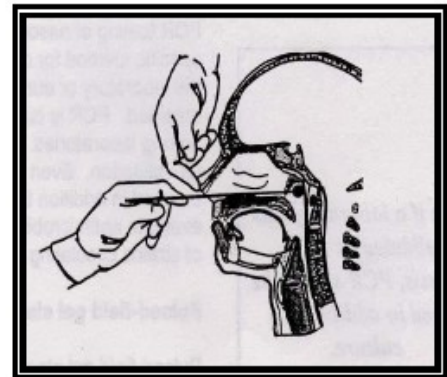
- The specimen type and time of collection will greatly impact the ability to detect *Bordetella pertussis*. Optimal specimens are nasopharyngeal swabs or nasal aspirates/washes that are collected 7 to 14 days post onset of pertussis symptoms. Symptoms are a cough **PLUS** one of the following: paroxysms, whoop, or post-tussive vomiting. These specimens contain the greatest number of bacteria and so allow for the greatest test sensitivity.
- Most respiratory diseases are caused by viruses. A respiratory specimen in viral transport medium **can be tested for BOTH** *B. pertussis* by PCR and for "Virus Isolation and Detection". See "Respiratory Disease" specimen collection instructions. A dry swab **cannot** be tested for "Virus Isolation and Detection".
- Label each specimen transport tube with the patient name or unique identifier.
- UNLABELED SPECIMENS WILL NOT BE TESTED.**
- A completed Respiratory Disease Test Request Form must accompany specimen.

### Specimen Collection and Handling

PCR is a very sensitive test, and precautions should be taken to not cross-contaminate specimens (i.e., changing gloves and use of sterile scissors or decontamination of scissors using bleach solution) for each patient. Specimens should be collected prior to start of antibiotic treatment. PCR detects both live and dead bacteria and is NOT a test of active disease and cannot be used as a test of cure.

#### •Nasopharyngeal Swab:

1. Gently insert nasopharyngeal swab into a nostril until the posterior nasopharynx is reached.
2. Leave the swab in place for 10-30 seconds.
3. Slowly remove with a rotating motion.
4. Place swab tip into 1.5 ml screw cap tube. Cut the excess length of the wire shaft with a sterile scissors, and cap the tube tightly. Treatment of scissors with 10% bleach prior to use is effective in removing DNA contamination.
5. Repeat process to collect a second swab, and place in the replicate 1.5 ml screw cap tube provided in the kit. NOTE: a second swab is not required but provides a back-up specimen if additional testing is required.
6. If the kit contains Regan-Lowe transport medium, then second swab in the glass vial containing the Regan-Lowe transport medium. Cut off excess length of shaft, and cap tube tightly.\*
7. Label specimens, wrap in absorbent material, place in a Biohazard bag and seal. Use a single Biohazard bag for each patient's specimens. Place the completed UHL Test Request Form in the outside pocket of the Biohazard bag.



*Do not use calcium alginate swabs, which are inhibitory to PCR.  
Use Dacron polyester swabs included in kit.*

\* **UHL kits distributed after January 17, 2006 will NOT contain** Regan-Lowe transport medium. If a pertussis culture is required, for example in the case of treatment failure, then place the second swab in the glass vial containing the Regan-Lowe medium. Cut off the excess length of the shaft and cap the tube tightly. Regan-Lowe media can be inoculated with a wash or aspirate by saturating one swab with the liquid and inserting into the Regan-Lowe or by mixing some of the fluid into the top centimeter of the media. Contact UHL-Bacteriology to alert them of the request or for any questions.



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### **Specimen Collection and Handling continued**

●**Nasal Wash:** Instill several milliliters of sterile saline into nostrils while patient's head is tilted back. Bring patient's head forward and catch saline flowing from the nostrils in a small container. Pour specimen (Minimum volume 0.2 ml) into the 1.5 ml sterile tube contained in the kit.

●**Nasopharyngeal Aspirate:** A small catheter with a suction trap or bulb aspirator is inserted through the nostrils into the nasopharynx. Apply suction while slowly removing the catheter or aspirator tip. The catheter or aspirator should be flushed with sterile saline or viral transport medium and contents (Minimum volume 0.2 ml) placed into the 1.5 ml sterile tube contained in the kit.

### **Complete Test Request Form**

Complete Respiratory Disease Test Request Form with the following information:

- Name, birth date, and gender of patient
- Specimen type and date collected
- Mark the test(s) requested on the form
- Date of symptom onset (length of cough)
- Patient symptoms, recent antibiotic treatment and type, and close exposure to confirmed *B. pertussis* case
- Address of submitter on the bottom of form next to "Facility Name", if not pre-printed by UHL. Results will be sent to the submitting facility.

### **Shipping Instructions**

- Include completed Respiratory Disease Test Request Form in the outside pocket of biohazard bag.
- Regan-Lowe transport media should be stored either at ambient temperature or at 35°C after collection.
- SEND TO UHL at Oakdale Campus in Iowa City (See address below).**
- Ship to UHL as soon as possible at ambient temperature.
- Place bag in the Styrofoam container and seal with adhesive wrapper provided or ship multiple specimens in packaging compliant with USPS or IATA regulations.

### **Contact Information**

- For test request forms and kits: 319/335-4466
- For additional forms, go to <http://www.uhl.uiowa.edu/kitsquotesforms>
- For *B. pertussis* questions: Molecular Biology, 319/335-4376
- For *B. pertussis* culture requests or questions: Bacteriology, 319/335-4335