Bordetella pertussis DNA Detection

Comment: Sites submitting specimens for testing must be approved by the Epidemiology Program at the Department of Health and Human Services Regulation and Licensure. Please call NPHL for clarification at 402.559.2440 or 866.290.1406.

Comment: A SPECIAL MICROBIOLOGY Requisition or NPHLWeb order must accompany this specimen.

Synonym: B. Pertussis DNA Detection

LISCode: BPD

Method: DNA Amplification

Availability: Monday-Friday by 900. Results within 3 days.

Specimen: Nasopharyngeal wash or nasopharyngeal swab

Collect: - Nasopharyngeal wash in sterile container.
Or
- Nasopharyngeal swab collected with Amies Charcoal, Dacron or cotton swab. (B. Pertussis culture must be submitted on separate Charcoal swab if ordered.) Avoid swabs made with wooden sticks. Swabs are available from NPHL. See specimen collection protocol below.

Volume: - 1.0 mL nasopharyngeal wash/0.5 mL minimum
Or
- One Swab, dry.

Transport: Nasopharyngeal swab or nasopharyngeal wash refrigerated with in 48 hours of collection. Specimen must be shipped via NPHL ground courier or overnight mail. Call NPHL at 402.559.2440 or 866.290.1406 for pick up.

Reference: No Bordetella species DNA present
Nasopharyngeal Wash Collection Protocol

The best specimen is a nasal wash, followed by nasal aspirate, and least acceptable is a nasopharyngeal swab, i.e., passing the swab through the mouth and swabbing the nasopharynx. The goal of the nasal wash is to collect cells since respiratory viruses are attached to cells. Therefore, the collection procedure described here is in two parts; first to obtain mucous-containing cells and secondly then to collect cells from the sidewall of the nasal passages.

EQUIPMENT:
- 5 or 10 cc syringe Butterfly catheter
- Normal saline Gloves, gown, mask, eye protection

Cut off the distal end (needle and butterfly) of the butterfly catheter so that about 2-3 inches of tubing are left attached to the hub.
Draw up 2 to 3 mL’s of saline into the syringe.
Discard the needle on the syringe.
Attach syringe (without needle) to hub of butterfly catheter.
Purge tubing with saline.
Put on gloves, gown, mask, and eye protection.
Gently remove excess mucous from patient’s nose. (If patient is an adult, ask the patient to gently blow nose. For pediatrics, a bulb syringe may be used to remove excess mucous).
Position patient in supine position with the head of bed elevated 30 degrees. The patient’s head should be turned to one side.
Stabilize the patient’s head and gently place the catheter into the nares. Placement should be in the nares (nasal wall), not the nasopharynx. Depending on the size of the patient, this should be about 1 to 2 cm in adults and 0.5 cm to 1.0 cm in children (0.5 cm in neonates).
Instill 1 to2 mL’s (depending on the patient age) of saline into the nares and aspirate back mucous, saline, and epithelial cells. The opposite nare does not need to be occluded while performing the procedure.
Repeat this process using the same syringe until sample is cloudy or appears to hold cellular debris. (If the sample is inadequate, the process may be repeated on the opposite nare, using a second sterile syringe and tubing. Usually one nare is sufficient.)
There may be some blood streaks in the mucous. This is normal and patients/parents should be told this is expected and will stop in a few minutes. Transfer contents of tubing and syringe into transport media using the following process: Depress syringe plunger and express fluid from syringe and tubing into transport media. Then withdraw media/liquid back into syringe and tubing. Depress syringe plunger again, expressing fluid from syringe and tubing back into transport media.
Nasal Pharyngeal Swab Collection Procedure

Specimens for B. pertussis culture must be submitted separately on a charcoal swab if a nasopharyngeal swab is the only specimen. Specimens for PCR can be collected with Amies Charcoal, Dacron or cotton swab if a nasopharyngeal swab is the only specimen. Avoid swabs made with wooden sticks.

Collect a nasal swab by gently rubbing the nasopharyngeal mucosa with a mini-tip culturette swab.
Transport dry, refrigerated.
Label specimen with patient name, collection date and time, and specimen source.
Package the specimen as described in the package and transport instructions.

Update: 10/04