

Diphtheria

Investigation Checklist for Local Health Departments

Local health department staff should follow these steps when beginning to investigate reports of Diphtheria. Consult with NJDOH by calling (609) 826-5964 during regular business hours or (609) 392-2020 after business hours and on weekends.

- Review laboratory results to understand what was reported.
 - Sometimes result is “diphtheroids” which is not diphtheria. Or result may come back as another *Corynebacterium* species (*accolens*, *afermentans*, etc) and be confused for diphtheria. When in doubt, request a hard copy of lab result.
 - Obtain/document this information:
 - Specimen source/site and date
 - *C. diphtheriae* identification method? By MALDI-TOF or biochemical testing?
 - Were other pathogens identified besides *C. diphtheriae*? If yes, please list.
 - Was antibiotic susceptibility testing (AST) completed on isolate? Obtain copy of AST results.
- Determine whether an adherent membrane is present:
 - If yes,
 - Obtain good description of membrane. Typically, with diphtheria, it would be very tight (almost becoming part of the tissues b/c it becomes so adherent); when poked it would pull away from the pharynx and may bleed. Whereas with other organisms, a scraping may be more like being able to remove tissue, like a film—similar to scraping the inside of a cheek.
 - Any other competing diagnoses? (e.g., if unilateral—could it be peritonsillar abscess?)
 - Any testing done for mono, strep throat, herpes pharyngitis, underlying HIV?
 - Request a picture of membrane and continue collecting data below.
 - If no, please continue with requesting additional information below
- Obtain additional clinical and epidemiologic information from medical provider and/or patient. Review and complete the CDC *Corynebacterium* Case Report Form, as provided at time of investigation by NJDOH. Form includes the following types of information:
 - Specimen info (as above)
 - Current disposition? (eg inpatient, outpatient, deceased, left AMA, home, etc)
 - Respiratory diphtheria symptoms, onset date
 - Cutaneous infection symptoms, onset date
 - Complications
 - Existing chronic conditions (e.g., diabetes mellitus, immunosuppressive state)
 - Antibiotic treatment, names and dates, please list
 - Any mention of endocarditis in the patient’s chart?
 - Is diphtheria vaccination status known? Attempt to obtain documentation/dates of diphtheria vaccines (DTaP, DT, Tdap, Td). Document all or most recent dose(s)—review [NJIS](#) registry.

- Recent (approx. last 4–6 weeks) domestic or international travel, dates/locations
 - Any recent contact with unvaccinated travelers?
 - Is individual currently homeless?
 - Was individual born in U.S.?
 - Recent contact with domestic or farm animals (had they been working on a farm?)
 - If yes, what kinds of animals? (eg cat, dog, horse, goat, sheep, cattle, etc)
 - Current or history of injection drug use?
 - Recent exposure to confirmed diphtheria case or carrier?
- Identify/assess close contacts
- Close contacts include all household members, persons with a history of habitual, close contact with the suspected diphtheria patient, or persons directly exposed to secretions from the suspected infection site of the patient.
 - Inquire about diphtheria vaccination status for household members.
 - Are any close contacts exhibiting symptoms of respiratory diphtheria?
 - Ensure patient and close contacts have been educated on the symptoms of respiratory diphtheria and know what to do should they become sick within 14 days of their last contact with the patient.
- For all confirmed *C. diphtheriae* culture results, CDC requests isolates for toxigenicity testing, regardless of whether case has an adherent membrane. Process for submission may differ, depending on level of respiratory disease suspicion. Please request isolate be sent to PHEL for forwarding to CDC – notify NJDOH REP/SME of ETA of isolate to PHEL
- Facility should create an order via [PHEL’s Online Ordering Portal](#):
 - Search for “Reference Laboratory Test Request”, select “Other” under test type; enter “C. diphtheria toxigenicity testing”; select specimen type; and select appropriate reference laboratory location (CDC Atlanta).
 - Print requisition form and include with sample in shipment to PHEL. Incorrectly labeled specimens submitted to PHEL will be rejected.
 - If online ordering is not available, a completed [BACT-109](#) form must accompany the specimens sent to PHEL. In “Tests Requested” section of the form, indicate “Reference Laboratory” and write in “CDC Atlanta”.
 - Storage and handling guidance for isolates is available [here](#).
- Finalize [CDRSS](#) data entry, assign appropriate [case classification](#), and LHD Close case when investigation is complete.
- Illness onset date
 - Demographics (including race/ethnicity)
 - Signs/symptoms (including onset dates)
 - Risk factors
 - Hospital admission/discharge dates
 - Mortality (whether case was alive or deceased upon discharge)
 - Immunizations (specifically only diphtheria immunizations)
 - Treatment (antibiotics for diphtheria)
 - Assessment of close contacts
- As with all communicable disease investigations, please feel free to contact your Regional Epidemiologist or the Disease Subject Matter Expert with any questions.