Toledo-Lucas County Health Department Standard Operating Procedure

Infectious Disease SOP— *Burkholderia pseudomallei* (Melioidosis)

Original Effective Date:	Review / Revision Date:	Environmental Health Procedure:
8/2008	7/20/17	2017.07.008

Maintenance Steward: Epidemiology Supervisor History: ☐ New ☒ Revised ☐ Archived

Organizational Scope:

☐ Full Agency ☒ Administration ☒ Community Services ☒ Environmental Health ☐ Health Services

Frequency of Review:

☐ Annually ☒ Biennially ☐ 5 Years ☒ As Needed ☐ Other:

Location:

S-Drive: S: → Users → Common → Policies & Procedures

Website: www.lucascountyhealth.com/employee-login/

Hardcopy: Environmental Health and Community Services Director's Office

Archived Version(s): S:\CSRP\SOGs\Archives

Requisite Signatures

☒	*Medical Director*	7-20-17 *Date*
☒	*Health Commissioner*	07-20-17 *Date*
☒	*Director of Environmental Health & Community Services*	7/20/2017 *Date*

Infectious Disease SOP— *Burkholderia pseudomallei* (Melioidosis)

I. Policy

It is the policy of the Toledo-Lucas County Health Department (TLCHD) to adhere to all state, federal, and local statutes governing the management and case investigation of individual communicable disease cases and outbreaks within Lucas County.

II. Scope

This procedure/process establishes guidelines for anthrax investigations. Per the Ohio Administrative Code (OAC) 3701-3, *Burkholderia pseudomallei* (Melioidosis) is a Class A disease and must be reported immediately via telephone according to 3701-3-02, 3701-3-03, 3701-3-04, and 3701-3-05 of the Administrative Code.

III. Purpose

This procedure/process establishes guidelines for *Burkholderia pseudomallei* (Melioidosis) investigations. Per the Ohio Administrative Code (OAC) 3701-3, *Burkholderia pseudomallei* (Melioidosis) is a Class A disease and must be reported immediately via telephone according to 3701-3-02, 3701-3-03, 3701-3-04, and 3701-3-05 of the Administrative Code.

IV. Background

Melioidosis, also called Whitmore's disease, is an infectious disease that can infect humans or animals. The disease is caused by the bacterium *Burkholderia pseudomallei.*

It is predominately a disease of tropical climates, especially in Southeast Asia and northern Australia where it is widespread. The bacteria causing melioidosis are found in contaminated water and soil. It is spread to humans and animals through direct contact with the contaminated source.

V. Case Definition

A. Clinical Description

1. Localized Infection:

   This form generally presents as an ulcer, nodule, or skin abscess and may result from inoculation through a break in the skin and may produce fever and general muscle aches. The infection may remain localized, or may progress rapidly through the bloodstream.

   a. Localized pain or swelling
   b. Fever
   c. Ulceration
   d. Abscess

2. Pulmonary Infection:

   This is the most common form of presentation of the disease and can produce a clinical picture of mild bronchitis to severe pneumonia. The onset of pulmonary melioidosis typically is marked by a high fever, headache, anorexia, and general muscle soreness.

Chest pain is common, but a nonproductive or productive cough with normal sputum is the hallmark of this form of melioidosis. Cavitary lesions may be seen on chest X-ray, similar to those seen in pulmonary tuberculosis.

a. Cough
b. Chest pain
c. High fever
d. Headache
e. Anorexia

3. Bloodstream Infection:

   Patients with underlying risk factors such as diabetes and renal insufficiency are more likely to develop this form of the disease, which usually results in septic shock. The symptoms of bloodstream infection may include fever, headache, respiratory distress, abdominal discomfort, joint pain, muscle tenderness, and disorientation. This is typically an infection with rapid onset, and abscesses may be found throughout the body, most notably in the liver, spleen, or prostate.

   a. Fever
   b. Headache
   c. Respiratory distress
   d. Abdominal discomfort
   e. Joint pain
   f. Disorientation

4. Disseminated Infection

   Disseminated melioidosis presents with abscess formation in various organs of the body, and may or may not be associated with sepsis. Organs involved typically include the liver, lung, spleen, and prostate; involvement of joints, bones, viscera, lymph nodes, skin, or brain may also occur. Disseminated infection may be seen in acute or chronic melioidosis. Signs and symptoms, in addition to fever, may include weight loss, stomach or chest pain, muscle or joint pain, and headache or seizure.

   a. Fever
   b. Weight loss
   c. Stomach or chest pain
   d. Muscle or joint pain
   e. Headache
   f. Seizures

5. The time between an exposure to the bacteria that causes the disease and the emergence of symptoms is not clearly defined, but may range from one day to many years; generally symptoms appear two to four weeks after exposure. Although healthy people may get melioidosis, the major risk factors are:

   a. Diabetes
   b. Liver disease
   c. Renal disease
   d. Thalassemia
   e. Cancer or other immunosuppressive condition not related to HIV

f. Chronic lung disease (such as cystic fibrosis, chronic obstructive pulmonary disease (COPD), and bronchiectasis

B. Diagnosis

1. Culture and Isolation
    a. Culture of *B. pseudomallei* from blood, sputum, pus, urine, synovial fluid, peritoneal fluid, or pericardial fluid is diagnostic. Indirect hemagglutination assay is a widely used serologic test but is not considered confirmatory. Diagnostic assistance is available through CDC (*http://www.cdc.gov/ncezid/dhcpp/bacterial_special/zoonoses_lab.html*).

VI. Case Classification

1. No case definitions exist currently from the Ohio Department of Health

VII. Procedure

The procedure/process of the Infectious Disease Program is to ensure that all cases are investigated in the same format.

When a report is received, a member of the ID team will complete an interview of the contact.

A. Outbreak Response

1. Call ODH ORBIT at 614-995-5599 for guidance

B. Public Health Investigation Process

1. ODRS:
    a. Check to see if the patient is entered into ODRS. If not, enter the patient into ODRS under "Any unexpected pattern of cases, deaths or diseases"
    b. Key fields for ODRS reporting include:
        i. Import status
        ii. Date of illness onset
        iii. All fields in the Epidemiology module
2. Investigation
    a. Case investigation should start as soon as possible following notification.
    b. Contact the patient's provider and/or hospital to obtain demographic information, symptoms, date of onset of symptoms, pertinent test results, and travel history.
        i. Search for history of exposure to infected animals, contact or employment in industry working with hides, pelts, bone meal or other animal products, or heroin injection.
        ii. If there are multiple cases, consider terrorist activity.
            1) Call JTTF/FBI Immediately if terrorist activity is suspected
                a) Local FBI Contact: Louie Espinosa—419-779-6600 or lespinosa@fbi.gov
    c. Once the provider and/or hospital ICP has been contacted call the patient/parent and complete the interview.

i. Provide education from the CDC's website: https://wwwnc.cdc.gov/travel/yellowbook/2016/infectious-diseases-related-to-travel/melioidosis
   1) If no one answers, leave a message requesting a call back.
   2) Mail an informational letter requesting a callback.
   3) Continue to attempt phone contact with the patient for three more times in the span of 48 hours after the informational letter was sent.
   4) Travel history for the week prior to symptom onset to an endemic area is important data to elicit. Toledo Lucas County HD progress notes will be utilized to record the necessary information and travel activity.
   5) After interview is completed, ask the patient/parent whether they would like more information. If they express an interest, ask what the best method to deliver the information would be (e.g. e-mail, mail, etc.)

d. Once information is obtained about case, inform the following agencies, as anthrax is a select agent reportable under 7CFR Part 331, 9 CFR Part 121, and 42 CFR Part 73:
   i. Local FBI Contact: Louie Espinosa—419-779-6600 or lespinosa@fbi.gov

3. Treatment
   a. Ceftazidime, imipenem, or meropenem is used for initial treatment of 10–14 days, followed by 20–24 weeks of trimethoprim-sulfamethoxazole. Relapse may be seen, especially in patients who received a shorter-than-recommended course of therapy.
4. Isolation/Follow Up Specimens
   a. While managed in clinical setting, contact precautions; standard blood and body fluid precautions should be taken.
5. Prophylaxis
   a. Person-to-person transmission is not common.
   b. Important to identify source, if possible, as others may have similar contact (work or home) and may also contract disease.
6. Contacts (Exclusion)
   a. Important to identify source, if possible, as others may have similar contact (work or home) and may also contract disease.
7. Notification
   a. Notify TLCHD contacts immediately after investigation with patient (in sequential order)
      i. Supervisor of Epidemiology
      ii. Director of Community Services and Environmental Health
      iii. Medical Director
      iv. Health Commissioner
   b. Public health recommendations and interventions will be shared with the public by the PIO or to specific individuals within 6 hours of identification of the agent as determined by ODH and supervisory staff at the local health department. An OPHCS alert will be distributed within 12 hours of a positive test result as determined by supervisory local health department staff and ODH.

C. Documentation
1. Enter information into ODRS as it is obtained.

2. Include a note documenting investigation, education, and intervention.
   Sample: Spoke with mother by phone on [date]. EDUCATION: Reviewed disease facts, transmission, and symptoms. DISEASE COURSE: Client has history of [medical conditions] and started [symptoms] on [date]. Started [treatment] on [date]. HOUSEHOLD: HH contacts include [relationships]. All are [asymptomatic/symptomatic] [Include information about sensitive settings for HH contacts]. OCCUPATION: [job] TRAVEL HISTORY: [Include information about travel history within the past 2-3 weeks]. MAILING: Mailed fact sheet and cover letter to home address.
3. Include a note for each occupation, activity, or other notification and any actions taken.

D. Closing a case

1. Ensure that all available information is entered into ODRS before closing. Close case and print record. Staple with investigation sheet and any related documents and file in the appropriate file drawer for the current year located in the CSRP office.

VIII. Appendices

None

IX. Reference/Investigation Forms

A. Anthrax Factsheet is located in S:\CSRP\SOGs\Melioidosis.

B. For additional information please refer to the CDC's website at: https://www.cdc.gov/melioidosis/

X. Maintenance

A. Review

1. The Infectious Disease standard operating procedures are to be reviewed every other year or as needed to ensure compliance with both agency and accreditation standards.

2. If guidance/recommendations from the Centers for Disease Control, Ohio Department of Health or law changes regarding this infectious disease, TLCHD will follow the most up-to-date guidance and adjust the SOP(s) as needed.

B. Revision

1. All changes made to this SOP are to be noted on the **Record of Change.** Substantial changes will require renewed signatures from all applicable parties. This includes changes to the intent, scope, procedures, or policy statement.

2. Changes in style, format, grammar or minor error correction will not require renewed signatures but must be indicated on the Record of Change.

Record of Change

(Required for all procedures)

Date of Change	Changes Made By	Changes Made/Notes	Approved By