CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES

VOLUME 10: PUBLIC HEALTH	Effective Date: 01/2016
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10.10.2 COCCIDIOIDOMYCOSIS SKIN TEST PROCEDURE	Attachments: Yes ☒ No ☐

I. PROCEDURE OVERVIEW

This procedure outlines processes for Coccidioidomycosis (cocci) Skin Test (CST) screening, administration, and evaluation. Routine opt-out CST shall be provided to all male patients, 18 to 64 years of age, in the reception center setting. The CST shall also be offered to male patients with a high priority designation and provided upon request but shall not be more frequently than once a month unless recommended by a clinician and for those without a prior positive or negative CST result.

II. DEFINITIONS

Coccidioidomycosis Skin Test: The skin test is used to determine hypersensitivity reaction to the spherulin antigen (a component of the fungus that causes cocci).

High Priority for Coccidioidomycosis Skin Test Offer: Male patients who are not condemned, not medical high risk, and not Cocci 1 Area restricted.

Medical High Risk: Patients who have a medical risk designated as high as defined by the Quality Management (QM) Master Registry.

Negative Coccidioidomycosis Skin Test Result: Indicates the patient is at higher risk of infection from cocci exposure than a patient who tests positive with CST. A negative CST does not definitively mean that the patient was never infected with cocci.

Opt-out Screening Method: The patient is informed that a routine CST will be performed unless the patient declines.

Positive Coccidioidomycosis Skin Test Result: Indicates the patient is at lower risk of infection from cocci exposure than a patient who tests negative with CST. The patient may have had or currently has a cocci infection. The CST is not a diagnostic test; a positive CST does not indicate definitely that the patient had a cocci infection in the past.

III. RESPONSIBILITIES

The Chief Executive Officer or designee of each institution is responsible for the implementation, monitoring, and evaluation of this policy.

IV. PROCEDURE

A. Standing Orders for Coccidioides immitis Skin Testing

The Standing Orders for Coccidioides immitis Skin Testing (Attachment A) is provided as a resource for institutions to use in their process.

B. Screening

1. In the reception center setting, routine opt-out CST shall be integrated into the initial health screening process (e.g., screening for sexually transmitted infections, pregnancy, HIV, and hepatitis C). The patient will be informed that a CST test is planned, unless he/she declines.

2. In non-reception center settings:
   a. Ensure all patients at high priority for cocci skin testing are offered or re-offered the CST, the Public Health Nurse (PHN) shall, at least monthly, survey the Cocci Risk Registry to identify the patients at their institution who need to be offered the CST.
   b. The CST shall be offered to the following male patients:
      1) Designated as high priority for testing in the Cocci Risk Registry.
      2) Have not been offered the CST.
      3) Have consented to the CST, but have not been tested or had an incomplete test (e.g., the CST was placed, but not read).
3. In all settings, prior to administration of a CST, the patient shall be provided information about:
   a. Cocci disease;
   b. The CST and the meaning of the result;
   c. How CCHCS will use the CST result to prevent cocci by restricting patients at higher risk from being housed in the Cocci 2 area.
4. This information shall be provided through either the CCHCS educational video or pamphlet and can be enhanced through in-person educational sessions conducted one-on-one or in small group sessions.
5. Patients shall be screened by licensed nursing staff prior to administration of the CST. During the screening process, licensed nursing staff shall document the following in the Cocci Screening System (CSS):
   a. Date and time of the screening;
   b. If the patient has had a severe reaction to a CST in the past;
   c. If the patient has a rash;
   d. Accommodations provided;
   e. If effective communication was reached; and
   f. Testing decision
      1) Patient consented to testing.
      2) Patient refused testing.
      3) Not tested for medical reasons.
      4) Not tested for other reason.
6. Patients with a report of a severe reaction to a CST in the past and patients with current rashes shall be evaluated by a health care provider; the health care provider shall determine if placing a CST is indicated or not.

C. Consent/Declination

1. Consent for the CST shall be incorporated into the general informed consent for medical diagnostic services. If a patient declines the test, the health care provider shall document the refusal in the health record using the CDC 7225, Refusal of Examination and/or Treatment form.
2. Patients who have declined, were not offered, or did not complete testing (e.g., the test was placed but not read or the results were indeterminate) may request a CST using a CDC 7362, Health Care Services Request Form.
   a. The co-pay cost for a CST should be waived.

b. Within a week of receipt of the CDC 7362, a clinic nurse shall counsel the patient about the test and the meaning of the results, place and read the CST, and document the result in the CSS and the health record.
c. The standing order will provide for the test; a visit with a provider is not required if the only request is for a CST.

D. Administration

1. The licensed nursing staff shall plan the time to administer the CST so the test can be read in the appropriate timeframe (44 to 52 hours after placement).
2. The CST shall be performed by the licensed health care staff (Registered Nurse, Licensed Vocational Nurse, or Psychiatric Technician) trained in placing CSTs.
3. When placing a CST, licensed nursing staff shall:
   a. Ensure proper hand hygiene measures have been performed prior to and after preparing and administering the CST;
   b. Be aware the inner aspect of the patient's right forearm is the preferred and standard location for placement of a CST;
   c. Avoid placing the CST injection where there are tattoos, muscle margins, heavy hairs, veins, sores, a rash, or scars;
   d. Use a tuberculosis syringe for placing the CST and inject 1.27 micrograms (equivalent to 0.1 milliliter or 0.1 cubic centimeter) of Spherusol®, creating a five to ten millimeter wheal. If the wheal is less than five millimeters, the CST shall be repeated two inches from the original site of injection;
   e. Do not massage, press on, or cover the area of the skin at the injection site once the needle has been removed;
   f. Document in the CSS the date and time of administration, location of administration (e.g., right forearm), antigen lot number, and expiration date; and
   g. Observe patients following CST placement for an immediate adverse reaction. Advise patients to notify health care staff immediately if they have any reaction within 30 minutes of the CST placement.
4. If the patient experiences an immediate adverse reaction upon administration of the CST, the following shall be documented in the CSS:
   a. The reaction.
   b. Whether a health care provider was notified.
   c. Whether an emergency protocol was initiated.

E. Evaluation

1. Reading of the CST shall be performed by licensed nursing staff trained in reading CSTs, and documented in the CSS.
   a. Results shall be read between 44 to 52 hours after placement of the CST.
   b. Both the longitudinal and transverse induration shall be measured, not including the area of redness or soft swelling, and documented in millimeters in the CSS.
   c. As a quality check, all measurements greater than or equal to five millimeters shall be evaluated by a second licensed health care staff experienced in reading skin tests.
   d. Any adverse reactions to the CST shall be documented in the CSS.

2. A positive CST shall be determined by the calculation of the mean of the measurements documented in the CSS. A mean of the two measurements that is greater than or equal to five millimeters of induration shall be interpreted as a positive delayed-type hypersensitivity response to Spherusol® or a positive CST.
3. Interpretation of the significance of a CST result shall be conducted by a Registered Nurse or a medical provider.

F. Reporting/Documenting

1. All data entry to the CSS shall be completed in real time.
2. CST results shall be entered in the CSS. The results shall be documented in the patient's health record.
3. Positive CSTs shall not be reported to the CCHCS Public Health Branch or the local public health department.

G. Patient Education

1. Patients shall be provided the following information immediately following administration of a CST:
   a. The CST shall be read within 44 to 52 hours;
   b. Mild itching, swelling, or irritation is normal and usually goes away within one week;
   c. Avoid scratching the site of injection;
   d. Do not cover the site or use adhesive bandages; and
   e. Keep the site clean and dry of creams and lotions.
2. Patients with a positive CST shall be advised that although they have a lower risk of developing cocci than patients who test negative, they should still use precautions to avoid inhaling dust.
3. Patients with a negative CST shall be advised that they will be medically restricted from the Cocci 2 area, but should use precautions to avoid inhaling dust because there is a risk of exposure to cocci in California outside of the Cocci 2 area (albeit lower than in the Cocci 2 area).
4. The PHN and clinic nurses shall provide ongoing education to patients on CSTs, which shall include the following:
   a. Monthly (at a minimum) showings of the CST video;
   b. Posting of educational pamphlets on the CST in all housing units and clinic areas; and
   c. Group or individual face-to-face education encounters.
5. At least monthly, the PHN shall provide education to patients who initially declined the CST; the PHN shall only be required to provide this additional education once for each patient who declined the CST. The patient shall receive focused education on CSTs and the following information:
   a. Educational handouts on CST;
   b. Risks of not getting tested based on the patient's race/ethnicity and health status;
   c. The proportion of patients in CDCR who test positive to the CST;
   d. How the patient's decision to accept or decline the CST impacts their future housing;
   e. Patients who initially refuse have the option to receive a CST at a later time through a request with a CDC 7362; and
   f. There is no co-pay required for the CST.

H. Local Operating Procedures

Each CDCR institution shall establish a Local Operating Procedure to implement the statewide procedure.

V. ATTACHMENTS

- Attachment A: Standing Orders for Coccidioides immitis Skin Testing

VI. REFERENCES

- Order Granting Plaintiffs' Motion for Relief Re: Valley Fever at Pleasant Valley and Avenal State Prisons, *Plata v. Brown*, June 24, 2013
- California Correctional Health Care Services, Inmate Medical Services Policies and Procedures, Volume 4, Chapter 2.1 and 2.2, Reception Health Care Policy and Procedure
- California Correctional Health Care Services, Inmate Medical Services Policies and Procedures, Volume 4, Chapter 29.1 and 29.2, Medical Classification System Policy and Procedure
- California Correctional Health Care Services, Inmate Medical Services Policies and Procedures, Volume 10, Chapters 11.1 and 11.2, Coccidioidomycosis Waiver, Policy and Procedure
- California Correctional Health Care Services Care Guide: Coccidioidomycosis, August 2013
- California Correctional Health Care Services Coccidioidomycosis Quick Sheet, August 2013
- Wheeler C, Lucas KD, Mohle-Boetani JC. Rates and risk factors for Coccidioidomycosis among prison inmates, California, USA, 2011. Emerg Infect Dis. 2015 Jan; 21(1):70-5.
- Purfield, A. Epi-Aid 2013-050 Trip Report: Coccidioidomycosis in Pleasant Valley State Prison and Avenal State Prison in the California central valley. Centers for Disease Control and Prevention, July 7, 2014

CALIFORNIA CORRECTIONAL HEALTH CARE SERVICES

Standing Orders for *Coccidioides immitis* Skin Testing

All standing orders should be reviewed in respect to the most current recommendations prior to signing them. These orders may be revised by the clinician signing the order (provider shall initial any revisions).

Coccidioides immitis Skin Testing

The Coccidioidomycosis Skin Test (CST) is indicated for the detection of delayed-type hypersensitivity to *Coccidioides immitis*. The results of the test are used to determine if patients have a higher risk of coccidioidomycosis (test negative) or a lower risk of coccidioidomycosis (test positive). This CST is intended for all male patients 18 through 64 years of age as a routine opt-out test in the reception center setting and upon patient request throughout incarceration. Patients with a prior positive CST result should not be re-tested.

Order for Cocci Skin Testing (CST):
Administer 0.1 mL dose of Spherusol® by intradermal injection to the volar surface of the forearm using a tuberculin syringe (0.5 or 1.0 mL) and a ½ inch 26-27 gauge needle.

Actual Testing:

1. Attempt to test each patient on the same arm to avoid confusion.
2. **Do not prefill** syringes before administering the CST.
3. The needle should be inserted bevel side up in the skin at a 15-20 degree angle.
4. Do not cover injection site with a bandage.
5. Do not apply pressure to the injection site.
6. Intradermal injection of 0.1 mL Spherusol® will result in a bleb 5-10 mm in diameter.
7. Patients receiving a CST should be observed for 5-10 minutes following administration.
8. Schedule patients for a follow-up appointment to have CST read in 48 hours (± 4 hours).
9. Document, in writing, the location of the CST administration.

Education:

1. Discuss with patient why the CST is being done.
2. Discuss with patient what the procedure involves.
3. Educate patients on the benefits of receiving a CST.
4. Educate patients on expected redness and induration at the injection site.Instruct the patient to alert staff (custody or healthcare) if they experience any problems in the first 30 minutes after placement of the CST.
5. Instruct the patient to contact medical staff immediately if they experience local, painful reaction, larger than one inch (the diameter of a quarter).
6. Tell the patient when they should return for the CST to be read. Explain to the patient they must return within 48 hours (±4 hours) after the CST is administered to have the test read.

Contraindications:

1. Do not administer a CST to patients with a previous documented positive CST reaction.
2. Do not administer a CST to patients who are younger than 18 or 65 and older.
3. Do not administer a CST to patients with a history of immediate hypersensitivity or anaphylaxis to a previous CST.
4. Do not administer a CST to a patient with a rash that would interfere with the reading of the skin test.
5. Do not administer a CST to a patient with erythema nodosum.

Measuring the CST/Interpretation and Documentation:

The injection site should be assessed by a trained health care professional at 48 hours (±4 hours) after administration. Palpate the site with your fingertips to determine if there is induration; it may be helpful to mark the margins of the induration with a pen.

Use a millimeter ruler or a caliper designed for skin test readings to measure the diameter of the induration.

Record all measurements as millimeters (mm) of induration (no matter what size, including "0 mm"). Redness should **NOT** be used to measure the reaction.

a. Measure the largest diameter of the area of induration first and record the measurement.
b. Measure the perpendicular (orthogonal) diameter and record the measurement.
c. Add the two measurements together and divide by 2 to obtain the mean diameter and record.
d. A positive response should be recorded if the mean diameter is ≥ 5mm.
e. Document the date and time the CST was measured as well as the exact measurement in millimeters (mm) in the health record.
f. Provide the patient with a copy of the CST results.

Storage and Handling of Spherusol®:

1. Spherusol® is available in 1 mL vials.
2. Store refrigerated at 2º to 8ºC (35º to 46ºF).
3. Do not freeze.
4. Discard if frozen.
5. Do not use Spherusol® for CST administration after expiration date.

_____
Clinician's Name (Print)

_____ _____/_____/_____
Clinician's Signature Date