

Title: Tuberculin Skin Testing

Procedure #: N 204 1 PRO

Creation Date: 10.2003 Last Approved Date: 6/19/24 Reviewed Annually

**Description:** Procedure to ensure accurate tuberculosis skin testing

PHAB Domain/

Standard/
Measure
(LINK):PHAB
Domain/
Domain 2 (Investigate, diagnose, and address health problems and hazards affecting the population), Standard 2.1 (Anticipate, prevent, and mitigate health threats through surveillance and investigation of health problems and environmental hazards.) Measure 2.1.4 A (Maintain protocols for investigation of public health issues)

<u>Standard/</u> Measure (LINK):

Statutory Wis. Stat. ch. 252 Wis. Stat. ch. 252 Communicable Diseases

Authority/ <a href="https://docs.legis.wisconsin.gov/statutes/statutes/252">https://docs.legis.wisconsin.gov/statutes/statutes/252</a>

Evidence Base/ Wis. Admin. Code Ch. DHS 145 Control of Communicable Diseases Links: https://docs.legis.wisconsin.gov/code/admin\_code/dhs/110/145

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### **Procedure Approval Tracking**

Created/ Reviewed/ Revised Date	Division Supervisor Signature	Department Medical Advisor (if required)	Health Officer or Designee Signature (Name/Title)
Revised 5/13/24 Council Approved 6/19/24	Sonja Jensen		Charles Sepers/Health Officer
Reviewed 7/15/25			

### Purpose



This procedure is designed to focus on obtaining accurate testing application and reading so that the results will be reliable regardless of whether the skin testing is performed as a part of a contact investigation or for other purposes.

### Procedure

Screening and Scheduling the Tuberculosis Skin Test

- 1. Client requesting TST will call the health department and speak with the intake nurse or PHN will call close contact(s) of active TB case to arrange TST.
- 2. PHN will complete the pre-screening questionnaire in the EHR (refer to TST Placement and Read Workflow for details). If a TST is appropriate for client based on questionnaire, schedule skin test placement. If TST is not appropriate for client, assist client in connecting to care for appropriate testing.
- 3. If known history of BCG vaccine, make recommendation for client to have IGRA instead of skin test and explain reasoning. If client is unable or unwilling to get IGRA testing, ok to schedule skin test.
- 4. PHN to use 'Health Immunization Clinic' calendar in outlook EHR calendar to schedule clients.
- 5. TST administrations to be scheduled on Mondays and Tuesdays during predetermined times based on staff availability.
- 6. Title of appointment will be 'TB Skin Test'. The Body of the Appointment to include client first and last name, client phone number and if interpreter services are needed.
- 7. Read appointment will be made at the time of placement.
- 8. Save pre-screening questionnaire in J drive. Alert scheduled nurse of test placement and read appointments and place copy of questionnaire in nurse's mailbox.

#### Payment

- 1. If a client is a known contact to an active tuberculosis case, TST will be provided free of charge. If client is requesting TST for other reasons, client will be charged for the service.
- 2. Payment for fee-for-service TST is accepted in cash or check only. Remind client to bring exact change.
- 3. Collect payment at the time of test placement.
- 4. If client requires change for cash payment, ask for change from 1<sup>st</sup> or 5<sup>th</sup> floor customer service staff.
- 5. Place payment in envelope and complete Nursing Donation and Fee Receipt form. Paper clip form to envelope and give to Health Department Administrative Support Specialist. Administrative Assistant.
- 6. Use account number 12520.480100 for all payments received.
- Payment receipt available upon request from <u>EHR</u>the Health Department Administrative Assistant.

Administering the TST: CDC Mantoux Tuberculin Skin Test: Administration, Reading, Interpretationiii

https://cityofappleton.sharepoint.com/sites/HealthDepartment-Teams/Shared Documents/General/POLICIES/N Nursing/Tuberculosis Screening (N 204)/EDITABLE/N 204 1 PRO TurberculinSkinTesting 07 23 2025

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Documents/General/POLICIES/N Nursing/PRO\_TurberculinSkinTesting\_06.19.2024.docx



#### **Equipment and Supplies**

- Sterile 1 ml tuberculin syringe with 25- or 27-gauge blunt beveled 1/4 1/2-inch needle
- Alcohol pads
- 5 TU PPD Properly stored and not expired.
- Gloves (per preference)
- Sharps disposal container
- Completed Assessment/Consent for TB Skin Testing document<sup>™</sup>. The parent or guardian must sign the consent for testing, if the person to be tuberculin skin tested is < 18 years of age.
- Tuberculin Skin Test Record Form<sup>y</sup>
- Emergency kit and standing orders for use should an anaphylactic reaction occur

#### **Placement**

- 1. Locate and clean injection site 5–10 cm (2–4 inches) below elbow joint
- 2. Place forearm palm-up on a firm, well-lit surface.
- 3. Select an area free of barriers (e.g. scars, sores, veins) to placing and reading.
- 4. Clean the area with an alcohol swab.
- 5. Prepare syringe
- 6. Clean the top of the vial with a sterile swab.
- 7. Fill the syringe with 0.1 ml tuberculin.
- 8. Insert the needle slowly, bevel up, at an angle of 5–15°. Needle bevel should be visible just below skin surface.
- 9. Inject tuberculin (see photo 1 in attachments)<sup>vi</sup>
- 10. After injection, a flat intradermal wheal of 6–10 mm diameter should appear. If not, repeat the injection at a site at least 5 cm (2 inches) away from the original site. If unable to produce a wheal, test is not valid, and client will be refunded their payment. Client should be directed to contact their medical provider for alternative testing.
- 11. Record all the information on the AHD TST Record Form in the EHR using the TST placement activity, and in WEDSS as necessary.
- 12. Provide client with TB Skin Test education handout, "What You Need to Know About the TB Skin Test" with date of return written in.

#### Reading the TST

The results should be read between 48 and 72 hours after administration. If the individual fails to show up for the scheduled reading, positive reactions may still be measurable up to one week after testing. If the results appear negative and more than 72 hours have passed, the test should be repeated. It can be repeated immediately or after 1 week if two-step testing is required.

#### **Equipment and Supplies**

- Gloves (per preference)
- TB skin test ruler
- Pen



- Client's Assessment/Consent for Tuberculin (TB) Skin Testing and Skin Test Record form
- Resources for positive skin tests if applicable.

#### Reading

- 1. Visually inspect injection site under good light.
- 2. Using fingertips, palpate the indurated area to find the margins of induration (palpable, raised, hardened area or swelling), not erythema (reddening of the skin). Mark the widest edges of induration using a pen.
- 3. Measure across the forearm (perpendicular to the long axis) of induration using a flexible ruler.
- 4. Place "0" of ruler line on the inside left edge of the induration. Read the ruler line on the inside right edge of the induration.

#### Recording results and Education

- 1. Record the exact measurement in millimeters on the AHD Skin Test Record Form (use lower measurement if between two gradations on mm scale).
- 2. If there is no induration, this measurement should be recorded as 0 (zero) mm.
- 3. Record the date and time the test was read, the name and signature of the person who read the skin test and the presence or absence of any adverse effects (blistering, redness, and swelling).
- 4. If the skin test result is positive (see interpretation of TST Results), provide the client with "TST Positive Folder". viii
  - a. Letter for PCP Positive TST
  - b. Letter for PCP recommending IGRA
  - c. Letter for PCP recommending Xray
  - d. Local Provider List if they do not have one
  - e. Positive TST- what's next (letter for their health care provider, list of local providers if they do not have one,
  - f. additional education and
  - 4. next steps).
- 5. Explain the results to the client and provide client with documentation of their results.
- 6. Record results in Wisconsin Electronic Disease Surveillance System
  - a. If TST is negative create a CI using 'Tuberculosis, Screening' as the disease being reported. Complete necessary fields. Scan Assessment/Consent for Tuberculin (TB) Skin Testing and Skin Test Record forms into file cabinet. Change Process Status to 'Closed' and Resolution Status to 'Not A Case'.
  - b. If TST is positive create a DI using 'Tuberculosis, Latent Infection (LTBI)' as the disease being reported. Complete necessary fields. Scan Assessment/Consent for Tuberculin (TB) Skin Testing and Skin Test Record forms into file cabinet. Follow procedure for LTBI.
- 7. Record all required information in the EHR TST read activity.

#### Interpretation of TST Results



Match the measurement of the induration with the client's risk factors based on CDC's interpretation guidelines <a href="https://www.cdc.gov/tb/publications/factsheets/testing/skintestresults.htm">https://www.cdc.gov/tb/publications/factsheets/testing/skintestresults.htm</a><a href="https://www.cdc.gov/tb/education/mantoux/pdf/Mantoux">https://www.cdc.gov/tb/education/mantoux/pdf/Mantoux</a> TB Skin Test.pdf. ix

### Two-Step Testing

- 1. A two-step TST is performed at baseline because people who were infected with TB many years ago may have a negative reaction to an initial TST.
- 2. The first "step" may stimulate (or boost) the immune system's ability to react to the test.
- 3. If the second "step" is not performed as part of baseline screening, a subsequent positive TST reaction could be misinterpreted as a new infection.
- 4. Follow the flow chart to perform Two-Step Tuberculin Skin Testing (TST)two-step TSTsx

### **Definitions**

AHD: Appleton Health Department

DOB: -Date of Birth

EHR: Electronic Health Record

IGRA: Interferon-Gamma Release Assays. Whole-blood tests that can aid in diagnosing

Mycobacterium tuberculosis infections. LTBI: Latent Tuberculosis Infection

mm: millimeters

PHN: Public Health Nurse

PPD: -Purified Protein Derivative

TB: Tuberculosis

TST: Tuberculin Skin Test



### **Attachments**

TST Prescreening Questionnaire

Nursing Donation and Fee Receipt

Assessment Consent for Tuberculin (TB) Skin Testing

Photo 1- Inject tuberculin



#### **TB Skin Test Record**

CDC What You Need to Know About the TB Skin Test <a href="https://www.cdc.gov/tb/publications/factsheets/testing/skintesting-information.htm">https://www.cdc.gov/tb/publications/factsheets/testing/skintesting-information.htm</a>

CDC Mantoux Tuberculin Skin Test: Administration, Reading, Interpretation https://www.cdc.gov/tb/education/mantoux/pdf/Mantoux\_TB\_Skin\_Test.pdf



CDC Tuberculin Skin Testing Fact Sheet https://www.cdc.gov/tb/education/mantoux/default.htm-CDC Tuberculin Skin Testing Fact Sheet

<u>Letter for Health Care Provider recommending IGRA</u> <u>Letter for Health Care Provider recommending Xray</u>

Letter for Health Care Provider-Positive TST

Positive TST- what's next

**TST Workflow** 

**Local Provider List** 

Minnesota Dept of Health Two-Step Tuberculin Skin Testing (TST) https://www.health.state.mn.us/diseases/tb/twostepalg.html

<sup>i</sup> TST Workflow

City of Appleton\Shared Documents\Nursing\Tuberculin Skin Test

Nursing Donation and Fee Receipt

City of Appleton\Shared Documents\Nursing\Tuberculin Skin Test

<u>CDC Mantoux Tuberculin Skin Test: Administration, Reading, Interpretation https://www.cdc.gov/tb/education/mantoux/pdf/Mantoux TB Skin Test.pdf</u>

<u>Name of Assessment Consent for Tuberculin (TB) Skin Testing</u>

City of Appleton\Shared Documents\Nursing\Tuberculin Skin Test

<sup>v</sup> TB Skin Test Record

City of Appleton\Shared Documents\Nursing\Tuberculin Skin Test



Photo 1- Inject tuberculin



viiiLetter for PCP - Positive TST

# Appleton Health Department Procedures

vii CDC What You Need to Know About the TB Skin Test
https://www.cdc.gov/tb/publications/factsheets/testing/skintesting-information.htm

Letter for PCP recommending IGRA

Letter for PCP recommending Xray

Local Provider List

Positive TST- what's next

City of Appleton\Shared Documents\Nursing\Tuberculin Skin Test

\*\* CDC Mantoux Tuberculin Skin Test: Administration, Reading, Interpretation https://www.cdc.gov/tb/education/mantoux/pdf/Mantoux\_TB\_Skin\_Test.pdf CDC Tuberculin Skin Testing Fact Sheet

XMinnesota Dept of Health Two-Step Tuberculin Skin Testing (TST) https://www.health.state.mn.us/diseases/tb/twostepalg.html