Quality Control Procedural Observation Checklists for Placing Tuberculin Skin Tests (TSTs) – Mantoux Method

Based on CDC Appendix F. Guidelines for Preventing Transmission of TB

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<th>Date</th>
<th>Trainer (QC by)</th>
<th>Trainee (TST placed by)</th>
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### 1. Preliminary

- Uses appropriate hand hygiene methods before starting.
- Screens patient for contraindications (severe adverse reactions to previous TST).*
- Uses well-lit area

### 2. Syringe† filled with exactly 0.1 mL of 5 tuberculin units (TU) purified protein derivative (PPD) antigen§

- Removes antigen vial from refrigeration and confirms that it is 5 TU PPD antigen.§
- Checks label and expiration date on vial.
- Marks expiration date on multidose vial.
- Fills immediately after vial removed from refrigeration.
- Cleans vial stopper with antiseptic swab.
- Twists needle onto syringe to ensure tight fit.
- Removes needle guard.
- Inserts needle into the vial.
- Draws slightly over 0.1 mL of 5 TU PPD into syringe.
- Removes excess volume or air bubbles to exactly 0.1 mL of 5 TU PPD while needle remains in vial to avoid wasting of antigen.
- Removes needle from vial.
- Returns antigen vial to the refrigerator immediately after filling.

### 3. TST administration site selected and cleaned

- Selects upper third of forearm with palm up ≥2 inches from elbow, wrist, or other infection site.**
- Selects site free from veins, lesions, heavy hair, bruises, scars, and muscle ridge.
- Cleans the site with antiseptic swab using circular motion from center to outside.
- Allows site to dry thoroughly before administering antigen.

### 4. Needle inserted properly to administer antigen

- Rests arm on firm, well-lit surface.
- Stretches skin slightly.††

- Holds needle bevel-up and tip at 5°–15° angle to skin.
- Inserts needle in first layer of skin with tip visible beneath skin.
- Advances needle until entire bevel is under the first layer of skin.
- Releases stretched skin.
- Injects entire dose slowly.
- Forms wheal, as liquid is injected.
- Removes needle without pressing area.

### 5. Explanation to the client regarding care instructions for the injection site

- The wheal (bump) is normal and will remain about 10 minutes.
- Do not touch wheal; avoid scratching.
- Avoid pressure or bandage on injection site.
- Rare local discomfort and irritation does not require treatment.
- May wash with soap and water (without pressure) after 1 hour.
- No lotions or liquids on site, except for light washing, as above.
- Keep appointment for reading.

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* Severe adverse reactions to the TST are rare but include ulceration, necrosis, vesiculation, or bullae at the test site, or anaphylactic shock, which is substantially rare. These reactions are the only contraindications to having a TST administered.

† Use a ¼–½-inch 27-gauge needle or finer, disposable tuberculin (preferably a safety-type) syringe.

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** Prefilling syringes is not recommended. Tuberculin is absorbed in varying amounts by glass and plastics. To minimize reduction in potency, tuberculin should be administered as soon after the syringe has been filled as possible. Following these procedures will also help avoid contamination. Test doses should always be removed from the vial under strictly aseptic conditions, and the remaining solution should remain refrigerated (not frozen). Tuberculin should be stored in the dark as much as possible and exposure to strong light should be avoided. SOURCE: American Thoracic Society, CDC, Infectious Disease Society of America. Diagnostic standards and classification of tuberculosis in adults and children. Am J Respir Crit Care Med 2000;161:1376–95.

† Preventing tuberculin antigen and vaccine (e.g., Td toxoid) misadministration is important. Measures should include physical separation of refrigerated prod-ucts, careful visual inspection and reading of labels, preparation of PPD for patient use only at time of testing, and improved record keeping of lot numbers of antigens, vaccines, and other injectable products. SOURCE: CDC. Inadvertent intradermal administration of tetanus toxoid-containing vaccines instead of tuberculosis skin tests. MMWR 2004;53:662–4.

** If neither arm is available or acceptable for testing, the back of the shoulder is a good alternate TST administration site. SOURCE: National Tuberculosis Controllers Association, National Tuberculosis Nurse Consultant Coalition. Tuberculosis nursing: a comprehensive guide to patient care. Smyrna, GA: National Tuberculosis Controllers Association; 1997.

†† Stretch by placing nondominant hand of health-care worker (HCW) on patient’s forearm below the needle insertion point and then applying traction in the opposite direction of the needle insertion. Be careful not to place the nondominant hand of the HCW opposite the administration needle if the patient is likely to move during the procedure, which might cause an accidental needle-stick injury to the HCWs. In children and others who are likely to move during the procedure, certain trainers prefer stretching the skin in the opposite direction of the needle insertion by placing the nondominant hand of the HCW under the patient’s forearm. This method should not be used for persons with poor skin turgor.