



**MONTANA STATE HOSPITAL
POLICY AND PROCEDURE**

**TUBERCULOSIS
SURVEILLANCE FOR PATIENTS**

Effective Date: April 29, 2020

Policy: IC-16

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- I. PURPOSE:** To provide guidelines for tuberculosis surveillance.
- II. POLICY:** To ensure admission screening and yearly surveillance of patients at Montana State Hospital (MSH).
- III. DEFINITIONS:**
- A. **PPD:** Tuberculin Purified Protein Derivative.
 - B. **BCG or Bacille Calmette – Guerin:** A vaccine for Tuberculin disease.
 - C. **TST:** Tuberculin Skin Test.
 - D. **IGRA:** Interferon-Gamma Release Assays (IGRAs) are whole-blood tests that can aid in diagnosing Mycobacterium tuberculosis infection, including both latent tuberculosis infection (LTBI) and tuberculosis (TB) disease. Two of the four IGRAs that have been approved by the U.S. Food and Drug Administration (FDA) are commercially available in the U.S. They are:
 - 1. QuantiFERON®-TB Gold In-Tube test (QFT-GIT).
 - 2. T-SPOT®.TB test (T-Spot).
- IV. RESPONSIBILITIES:**
- A. **RN or LPN** is responsible for administering TST on admission unless contraindicated.
 - B. **RN or LPN** is responsible for follow-up reading of TST after administration and documentation of results on the immunization record.
 - C. **Medical Clinic Licensed Independent Practitioner or designee** is responsible for reviewing PPD skin test status at time of annual physical and ordering appropriate surveillance.
- V. PROCEDURE:**
- A. **ADMISSIONS:**
 - 1. *All new admissions* to MSH should receive 2-step tuberculin skin testing unless there is written documentation of a negative TST within the past 12 months.

2. The tuberculosis skin test is contraindicated for patients with known active tuberculosis, a documented positive TST, or a documented severe hypersensitivity to purified protein derivative such as vesiculation, ulceration or necrosis at the test site.
3. A chest x-ray will be ordered on any patient with an ongoing contraindication to PPD testing as deemed appropriate by a medical clinic Licensed Independent Practitioner.

B. TUBERCULOSIS SURVEILLANCE:

1. In addition, *current patients*, except those with known active tuberculosis, documented positive TST or IGRA, or a documented severe hypersensitivity to purified protein derivative such as vesiculation, ulceration or necrosis at the test site should participate in an annual testing program.
2. Annually, patients with documented history of a negative TST performed within the last 12 months require only a TB symptom screening. The MSH Medical Clinic Physician will then determine, at that time, whether further follow up is required, which may include a chest x-ray.
3. Patients who have known exposure to active tuberculosis will have a tuberculosis skin test six weeks after the exposure.
4. If using the TST, the first step is applied at admission according to the following protocol. If the first TST is negative, the second test is placed one to three weeks after placement of the first test. A documented negative TST result within the past 12 months may be considered the first step. If the IGRA is used, one blood sample is drawn at admission. No additional samples are required. The IGRA can only be authorized by Medical Clinic Licensed Independent Practitioners and approval by the Medical Director.

Protocol for Tuberculin Skin Testing (TST):

Note: A patient with written documentation of a previous positive TST does not need a repeat tuberculin skin test.

1. Intradermally inject 0.1 cc of intermediate strength purified protein derivative containing 5 tuberculin units in the volar or hairless area of the forearm about 4 inches below the elbow, creating a wheal 6-10mm in size. Repeat the tuberculin skin test on the opposite arm or three (3) inches from original test site if the wheal created is not of adequate size.

2. The TST is read between 48-72 hours. Measure the area of INDURATION, a hard, dense, raised formation (erythema or redness does not indicate a positive reaction). The number of millimeters of INDURATION is recorded.
3. If there is <5 mm of induration or no reaction at all, the test is considered negative. >5 mm of induration refer to the medical clinic for follow up. Always record the test results in millimeters (mm) and not as “negative”.

Classification of the Tuberculin Reaction:

An **induration of 5 or more millimeters** is considered positive in:

1. HIV infected persons.
2. Recent contact of a person with TB disease.
3. Persons with fibrotic changes on chest radiograph consistent with prior TB.
4. Patients with organ transplants.
5. Persons who are immunosuppressed for other reasons (e.g., taking the equivalent of >15 mg/day of prednisone for 1 month or longer, taking TNF-antagonists).

An **induration of 10 or more millimeters** is considered positive in:

1. Recent immigrants (< 5 years) from high-prevalence countries.
2. Injection drug users.
3. Patients and employees of high-risk congregate settings.
4. Mycobacteriology laboratory personnel.
5. Persons with clinical conditions that place them at high risk.
6. Children < 4 years of age.

An **induration of 15 or more millimeters** is considered positive in:

1. Any person, including persons with no known risk factors for TB
However, targeted skin testing programs should only be conducted among high-risk groups.

C. TESTING FOR TB IN BCG-VACCINATED PERSONS:

1. BCG, or Bacille Calmette-Guérin, is a vaccine for TB disease. Many persons born outside of the United States have been BCG-vaccinated. BCG vaccination may cause a positive reaction to the TB skin test, which may complicate decisions about prescribing treatment. Despite this potential for BCG to interfere with test results, the TB skin test is not contraindicated for persons who have been vaccinated with BCG. The presence or size of a TB skin test reaction in these persons does not predict

whether BCG will provide any protection against TB disease. Furthermore, the size of a TB skin test reaction in a BCG-vaccinated person is not a factor in determining whether the reaction is caused by latent TB infection (LTBI) or the prior BCG vaccination.

2. TB blood tests (interferon-gamma release assays or IGRAs), unlike the TB skin tests, are not affected by prior BCG vaccination and are not expected to give a false-positive result in persons who have received prior BCG vaccination.

- VI. REFERENCES:** CDC, DPHHS TB program 3/2008 and Infection Prevention Manual for Behavioral Health 2009.
- VII. COLLABORATED WITH:** Medical Director, Director of Nursing, Infection Control Nurse.
- VIII. RESCISSIONS:** IC-16, Tuberculosis Surveillance for Patients dated November 26, 2019; IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated June 2, 2016; IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated July 21, 2011; IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated September 14, 2009; IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated April 24, 2007; Policy IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated March 31, 2003; IC-16, *Tuberculosis Surveillance for Patients of Montana State Hospital* dated February 14, 2000; HOPP IC-02-96-R, *Tuberculosis Surveillance for Patients of Montana State Hospital*, dated November 14, 1996.
- IX. DISTRIBUTION:** All hospital policy manuals.
- X. ANNUAL REVIEW AND AUTHORIZATION:** This policy is subject to annual review and authorization for use by either the Administrator or the Medical Director with written documentation of the review per ARM § 37-106-330.
- XI. FOLLOW-UP RESPONSIBILITY:** Infection Control Nurse.
- XII. ATTACHMENTS:** For internal use.
- A. MSH Annual Tuberculosis Assessment.

Signatures:

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Medical Director