

## TUBERCULOSIS

### I. DEFINITION:

Tuberculosis (TB) is a necrotizing bacterial infection with well-described manifestations and wide distribution. The lungs are most commonly affected but lesions may also occur anywhere else in the body (kidneys, bones, lymph nodes, meninges).

### II. ETIOLOGY AND EPIDEMIOLOGY:

TB is a communicable disease caused by the bacteria, *Mycobacterium tuberculosis* or related organisms (*M. tuberculosis* complex). Infection with *M. tuberculosis* complex is worldwide and one out of every three persons in the world is infected. Globally, there are around 10 million new cases of active disease and around two million deaths each year from TB. Persons who are infected but do not have TB disease are asymptomatic and are not infectious to others. Approximately 10% of infected persons will develop TB disease at some time in their life, but the risk is considerably higher for persons who are immunocompromised, especially those with HIV infection. Clinical disease may occur at the time of initial infection (primary TB), months, or decades later, (post primary or reactivation TB).

Mode of Transmission: Transmission of TB is airborne via droplet nuclei. Droplet nuclei are produced when a TB client talks, coughs, sneezes, laughs, shouts or sings. Droplet nuclei are minute liquid particles 1-5 microns in diameter. The moisture in the droplet nuclei evaporates and the microscopic particles remain suspended in the air for hours after being expelled from a TB client's lungs. Only the smaller droplet nuclei (less than 5 microns in size) are of clinical importance since they are small enough to reach the terminal bronchioles and alveoli. Infection occurs when a person of any age has been in close association with an active case of TB for a length of time sufficient to have inhaled air containing tubercle bacilli droplet nuclei. These tubercle bacilli live, reproduce themselves, disseminate throughout the body and persist as live *M. tuberculosis* organisms. These organisms are "walled off" by the immune system and persist in a "dormant phase" within tubercles or granuloma, most frequently in the upper lobes of the lungs. Fomites (i.e., objects, clothing, and bedding) are not important in the transmission of TB. Normal dishwashing and housekeeping methods are appropriate in the care of active TB cases.

Incubation Period: The bacilli divide slowly, every 18 to 24 hours. Delayed-type hypersensitivity, as demonstrated by the development of a positive reaction (induration) to the TB skin test, develops 2 to 10 weeks after the initial infection. This period corresponds to the time needed to develop a cell mediated immune response. As cell mediated immunity develops, tubercle bacilli replicate and are disseminated throughout the body and persist as living *M.tuberculosis* organisms within tubercles or granulomas. Only 10% of persons who have latent TB infection (LTBI) will ever develop TB disease. Half of subsequent TB disease results from progression of the initial infection to disease within the first year or two after infection by the body failing to keep the infection contained. This occurs in 5% of all infected individuals. Risk of disease reactivation from "dormant" TB bacilli persists throughout an infected person's lifetime but only occurs in another 5% of infected persons.

Period of Communicability: Theoretically, contagiousness persists for as long as viable (living) tubercle bacilli are being discharged in the sputum. The degree of contagiousness depends on the number of bacilli discharged, (reflected by the number of organisms per high dry field seen on the AFB sputum smear), the virulence of the bacilli, and opportunities for bacterial aerosolization by coughing, sneezing, talking, laughing, shouting or singing, and the presence or absence of cavitory disease. In general, it is the smear positive client with cavitory disease who is apt to transmit infection to susceptible individuals. A TB case should be considered contagious until two weeks of adequate therapy has occurred, three consecutive negative smear reports have been received, and there has been a reduction in symptoms. Environmental factors, such as the

adequacy of the ventilation and the size of the shared air space (i.e., car, room, gym) also affect communicability. One of the greatest factors affecting communicability is the length of contact between the diseased individual and the susceptible individual. Extrapulmonary TB is usually not communicable, but extra-pulmonary and pulmonary TB may both be present in a specific client. Effective chemotherapy will eliminate contagiousness but the length of therapy necessary to achieve a non-contagious state varies depending primarily on the extent of disease.

III. CLINICAL FEATURES:

TB bacteria can live in the body without making the person sick. There are two TB-related conditions: LTBI (**infection**) and TB **disease**.

LTBI ( <b>infection</b> )	TB <b>disease</b>
Has no symptoms	Symptoms may include: <ul style="list-style-type: none"> <li>• A bad cough lasting 3 weeks or longer</li> <li>• Pain in the chest</li> <li>• Coughing up blood or sputum</li> <li>• Weakness or fatigue</li> <li>• Weight loss</li> <li>• No appetite</li> <li>• Chills</li> <li>• Fever</li> <li>• Night sweats</li> </ul>

People with LTBI may never develop TB disease and cannot spread TB bacteria to others.

A person with TB disease, usually had symptoms, feels sick, and may spread TB bacteria to others.

IV. MANAGEMENT PLAN:

A. Diagnostic Procedures

1. It is Oklahoma State Department of Health (OSDH) policy to perform tuberculin skin test (TST) on the following persons:
  - a. Specific order to perform a TST from any physician.
  - b. All TB cases and TB suspects at the County Health Department (CHD) initial workup, **unless** there is documentation of a prior reactive TST with a recorded date of application and millimeters (mm) of induration or documented prior positive IGRA.
  - c. Persons with a chronic cough greater than 3 weeks or other symptoms of TB.
  - d. Contacts to TB cases in accordance with contact investigation guidelines (see Self-Study Module 8 which can be located electronically at <http://www.cdc.gov/tb/education/ssmodules/pdfs/module8.pdf>).
  - e. Clients reporting a prior "positive" TST but have no documentation as to date of application and mm of induration and fit these criteria for testing.
  - f. High risk groups (**do not require two-step testing**)
    - 1) Homeless persons.
    - 2) Inmates of city or county jail facilities or prison, when symptomatic or there is a question of possible active TB.
    - 3) Alcoholics and intravenous drug abusers.
    - 4) Persons entering substance abuse therapy programs.

- 5) Persons with HIV infection or AIDS.
  - 6) Foreign born persons.
  - 7) Diabetics.
- g. County Health Department Employees

The TB Division has determined there are three tiers of functional jobs within the OSDH-County Health Department system, with respect to TB exposure. These have been delineated based on the possibility of contact to infectious TB cases through job duties.

**Tier I** is comprised of job classifications that have direct client care responsibilities or work with infectious specimens, such as CHD general clinic nurses, directly observed therapy (DOT) providers, Public Health Laboratory (PHL) TB laboratorians, client care assistants, and interpreters. **Persons filling Tier I jobs should be tested for TB by OSDH with a baseline test (upon hire; 2-step testing if indicated per Physician Approved Protocols) and annually thereafter.**

**Tier II** is comprised of job classifications that may come into contact with an active TB case; however such contact would generally be incidental and would not fit into a defined at-risk exposure-time category. This includes jobs such as CHD clerical staff, C1/nurse home visitation team, SoonerStart Early Intervention team, long term care surveyors, hospital inspectors, disease investigation specialists, and PHL shipping & receiving unit personnel that handle laboratory specimens. **Persons filling Tier II jobs should be tested for TB by OSDH with a baseline test (upon hire; 2-step testing if indicated per Physician Approved Protocols) and would receive subsequent testing only if an identified job-related exposure occurred.** The baseline test will generally be a TST. If the employee was foreign-born in an established high incidence country, a blood assay for *Mycobacterium tuberculosis* will be performed at baseline, on recommendation from a TB Division Medical Consultant.

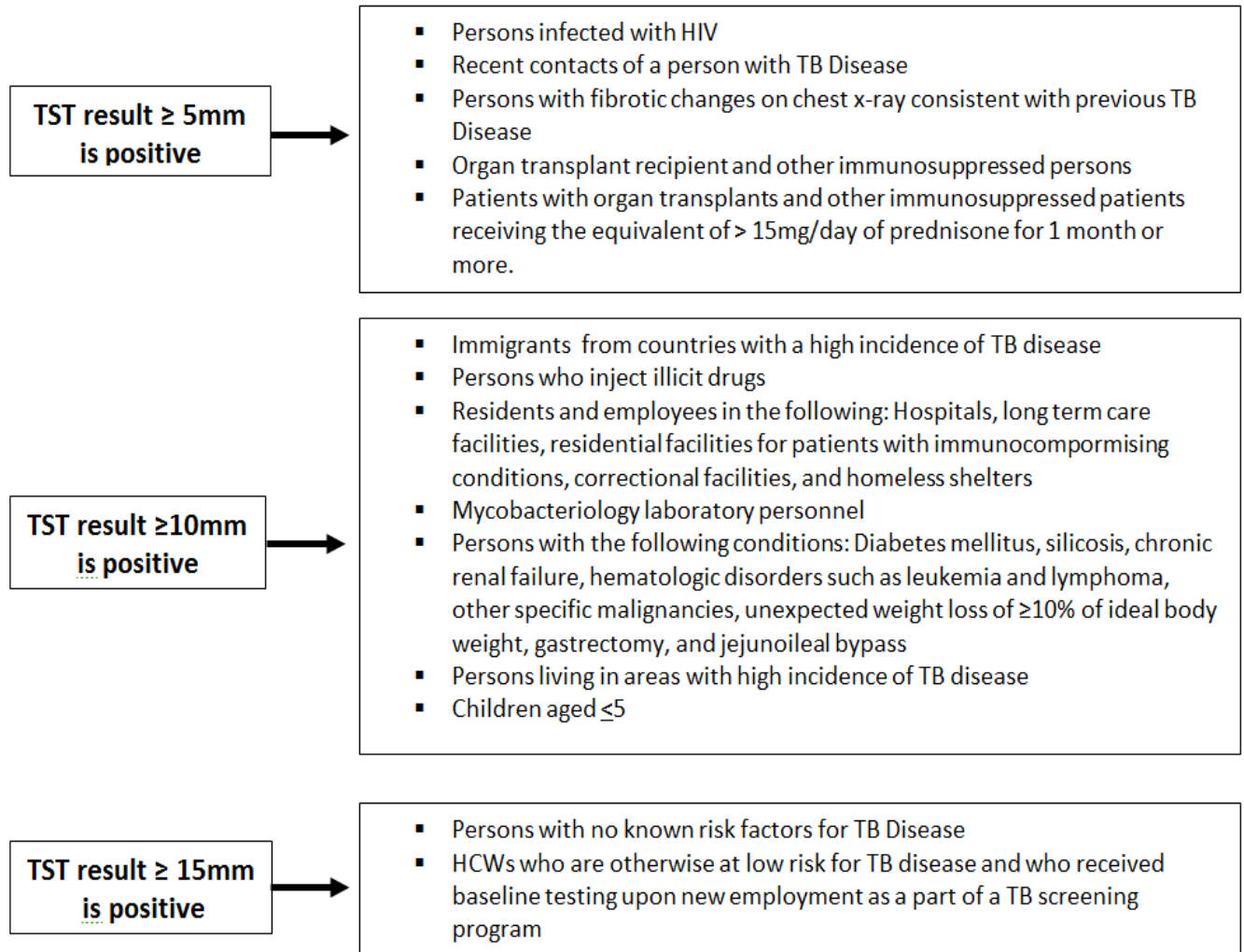
**Tier III** is comprised of job classifications that do not come into contact with TB cases as part of routine duties, such as administrators/management, sanitarians, social workers, and OSDH central office personnel, etc. (Basically all functional jobs not contained in Tier I or Tier II). Note that these are not exhaustive lists and that certain job classifications may be in different levels, depending on the duties filled in different CHDs, for example, PCAs may have direct client care responsibilities in certain CHDs but not in others. **Persons filling Tier III jobs should not be tested for TB, unless a job-related exposure is identified.**

2. Management of OSDH Employees

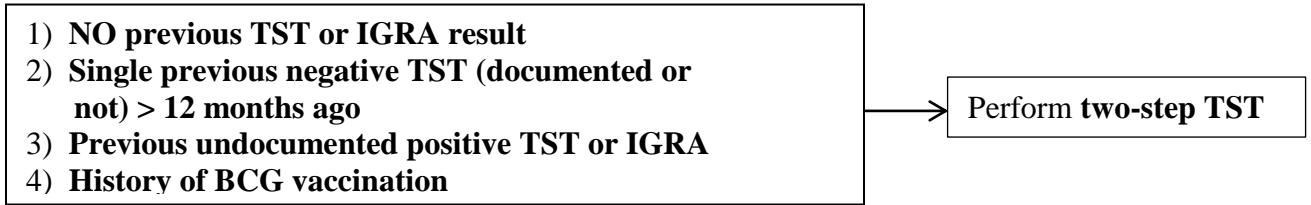
- a. Baseline TSTs should be performed upon hire for Tier I and Tier II employees. OSDH employees will be tested by the Employee Health Nurse during New Employee Orientation whenever possible. CHD employees will be tested by the Employee Health Nurse Delegate at their respective CHD.
- b. Persons filling Tier I jobs must be appropriately mask-fit tested prior to performing job duties. The correct PPE for each employee, as determined by mask-fit testing process, should be maintained at all worksites at which each individual may be exposed.

- c. The TB Division must be consulted concerning the determination of whether a TB exposure has occurred in OSDH or CHD personnel.
  - d. OSDH program areas preparing documents containing recommendations regarding TB should consult with the TB Division, Acute Disease Service, to ensure guidance is appropriate and consistent, medically and epidemiologically, with national TB program interpretations and best practices.
  - e. These requirements amend the current 2012 OSDH Infection Prevention and Control Manual. The next release of the OSDH Infection Prevention and Control Manual will reflect these changes.
  - f. The need for a TST of clinical employees that may be called upon to respond to a public health emergency should be reviewed prior to deployment.
3. The following persons may be tested if the CHD purchases Purified Protein Derivative (PPD) for such use: (this PPD must be kept separate from OSDH supply). It is the CHD's responsibility to evaluate all reactors.
- a. Persons who will receive regular monitoring of TST status as an employee, e.g., health care workers, emergency response personnel (police, sheriff, fire and EMT personnel) and employees of prisons, jails, nursing homes, homeless shelters, substance abuse treatment centers and funeral homes.
  - b. Nursing home residents.
  - c. Residents or employees of DHS juvenile residential facilities.
  - d. College or university students or for higher education school entry.
4. TST with PPD 5 tuberculin units (TU)
- a. Apply 0.1 ml PPD intradermal on forearm or scapula
    - 1) Record measurement of induration in double digits: i.e., 06 mm, 15 mm, etc. Use largest measurement: i.e., a 10 mm x18 mm induration would be documented as 18 mm.
    - 2) Record no induration as 00 mm.
    - 3) Do not measure redness (erythema).
    - 4) Record and report vesiculation (blistering).
    - 5) Record all documentation for TB using the Public Health Investigation and Disease Detection of Oklahoma (PHIDDO) System
  - b. If a TST is administered inappropriately (too deep, no wheal, etc.), a second test should be administered on the opposite arm immediately. If the second attempt is not successful, then repeat test on scapula.
  - c. If a TST yields "equivocal" results (vague induration, very difficult to measure, etc.) repeat test may be performed immediately, or if person requires a 2 step, then reapply one (1) week later.
  - d. For TSTs that result in client complaints of itching or pain, instruct the client to apply over the counter 1% hydrocortisone cream as directed per medication insert. If this does not help or if there is significant blistering, swelling, pain or other concern not relieved by the hydrocortisone cream, call the TB Medical Consultant immediately.
  - e. Skin tests applied and read by health professionals in other facilities should always be read and documented when the client is seen at the CHD.

- f. Occasionally a TST will result in no induration at 48 or 72 hours, but a few days later induration will occur; this is known as a delayed reaction.
- 1) Read results and record in mm.
  - 2) X-ray TST reactors per criteria for positivity.
- g. Tubersol or Aplisol PPD -- Once opened, a vial of PPD may be used for 30 days. Keep refrigerated in original box for light sensitivity and discard 30 days from date opened. Record date opened and expiration date on vial and box.
- h. Interpretation TST readings/**Criteria for positivity**



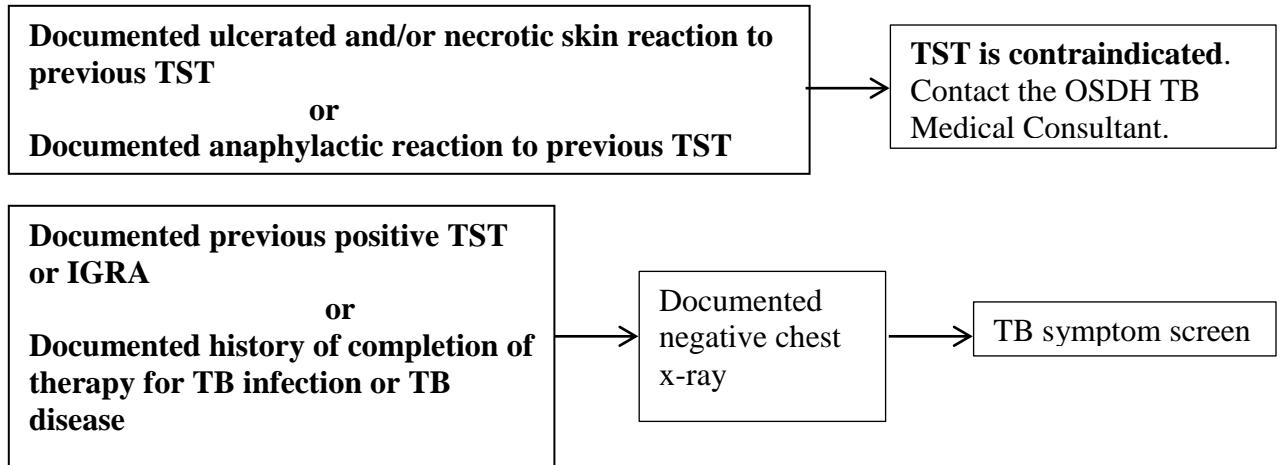
i. Two Step Test



1) Single TST:



2) Do not perform baseline or subsequent TST on individuals with:



- j. “Documented” TST results require specific date applied (and/or read) and measurement in millimeters of induration. A test reported simply as “positive” or “negative” is not considered a “documented” result.
- B. Chest X-Rays: Obtain a PA and Lateral chest x-rays on the following persons:
- 1. When ordered by TB Division Medical Consultant.
  - 2. TB suspects who are symptomatic.
  - 3. Any person with a TST of 05 mm induration or more should be evaluated according to the criteria for positivity.
  - 4. Any person with a documented positive IGRA.
  - 5. **Persons with a cough greater than 3 weeks or other symptoms suggestive of TB regardless of TST results.**
  - 6.. Children less than or equal to five (5) years of age who have had contact to an active case or suspect.
  - 7. Prior TST reactors or positive IGRA who are symptomatic whether or not a course of preventive therapy (PT) was completed.
  - 8. All prior documented cases with symptoms.
  - 9. If an x-ray is indicated and the client recently had a chest x-ray performed, the following rules of thumb apply:
    - a. In symptomatic suspects, newly diagnosed cases of active TB, recent contacts to active TB and all children  $\leq 5$  years of age, a chest x-ray taken  $\leq 14$  days earlier is acceptable.
    - b. In asymptomatic individuals undergoing routine screening for TB infection (immigrants, health-care workers, students, residents of long term care facilities, etc), a chest x-ray taken  $\leq 3$  months earlier is generally acceptable.
    - c. In all cases, the actual x-ray (on CD or film) must be sent to the OSDH TB Division for review. A chest x-ray report only is not acceptable.
    - d. Upon initial workup all prior films/CDs need to be sent with current films/CDs for comparison.
- C. Sputum Collection: Collect sputum specimens for Acid Fast Bacilli (AFB) smear and culture on three (3) consecutive days (24 hours apart) on any person with symptoms suggestive of active TB irrespective of TST status or prior TB therapy.
- 1. Collect first specimen at initial workup, if possible.
  - 2. Sputum specimens should be sent to the PHL prior to the beginning of therapy, if possible.
  - 3. Collect at least two (2) cc of sputum in each specimen (5 cc is optimal).
    - a. Specimens containing  $< 2$  cc are unsatisfactory and will be reported as quantity not sufficient (QNS) and will not be processed.
    - b. DO NOT POOL sputum from more than one day to achieve a specimen of 2 cc volume.
  - 4. If sputum is collected at the CHD, procedure must be performed in the isolation room wearing an N95 mask or outside.
  - 5. Collect nebulized sputum specimens if ordered by TB Medical Consultant:
    - a. Obtain price estimate and purchase order using CHD operating procedures. Code to the local expenditure program (LEP) as is utilized for TB x-rays.
    - b. Collect a nebulized sputum specimen on 2 consecutive days (one each day) for AFB smear and culture.

6. Obtain copies of AFB smear and culture results performed by hospitals and laboratories other than the PHL and scan to PHIDDO record under Lab tab. If sputum is processed at an outside lab, the Public Health Nurse (PHN) should notify the outside lab and request that the MTB isolate be shipped to the PHL for genotyping.
  7. Obtain urine or wound drainage specimen(s) for AFB smear and culture as directed by TB Medical Consultant.
- D. HIV Testing:
1. Draw blood for HIV serology on all TB Workups. **Select Dr. Charles Harvey's name on HIV requisition as ordering physician.**
  2. Draw HIV serology on all high and medium priority contacts.
  3. If HIV serology is refused, reoffer during monthly physical assessment.
  4. Notify Disease Intervention Specialist (DIS) of all TB clients with positive HIV results.
- E. Contact Investigation – Investigate contacts in accordance with contact investigation guidelines (see Self-Study Module 8 which can be located electronically at <http://www.cdc.gov/tb/education/ssmodules/pdfs/module8.pdf>)  
<http://www.cdc.gov/TB/education/ssmodules/>)
- F. Refugee/Immigrant Evaluation and/or Electronic Disease Notification (EDN)



<b>TB Follow-up Recommendations for Arrivals with a TB Class Condition</b>	
<b>Arrival's Class Status</b>	<b>TB Follow-up Recommendations</b>
<p style="text-align: center;"><b><u>TB Class A—Active TB disease</u></b></p> <ul style="list-style-type: none"> <li>➤ Pulmonary TB disease</li> <li>➤ Sputum smear or TB culture positive</li> <li>➤ Requires waiver for travel (i.e., on treatment and smear negative prior to travel)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Consider this client to have active TB disease (suspected or confirmed)</li> <li>✓ Review overseas medical exam and treatment documentation</li> <li>✓ Assess the client clinically and do additional diagnostic testing, such as repeat CXR, sputum collection, and other tests if indicated</li> <li>✓ Provide HIV counseling, testing, and referral. If HIV test is refused, reoffer HIV test monthly while on treatment for active TB disease.</li> <li>✓ Follow TB Medical Consultant's orders for treatment as indicated</li> <li>✓ DOT is the standard of practice for treating persons with active TB disease.</li> </ul>
<p style="text-align: center;"><b><u>TB Class B1</u></b></p> <ul style="list-style-type: none"> <li>➤ Evidence of pulmonary or extrapulmonary TB disease</li> <li>➤ Sputum smear negative</li> <li>➤ Includes "old healed TB" and previously treated TB</li> </ul>	<ul style="list-style-type: none"> <li>✓ Evaluate for signs and symptoms of TB disease that may have developed since their overseas exam</li> <li>✓ Administer TST unless the client has documentation of a previous positive TST or positive IGRA</li> <li>✓ Assess the client clinically and do additional diagnostic testing, such as repeat CXR, sputum collection, and other tests if indicated</li> <li>✓ Provide HIV counseling, testing, and referral. If HIV test is refused, reoffer HIV test monthly while on treatment for LTBI or active TB disease.</li> </ul>

Arrival's Class Status	TB Follow-up Recommendations
<p style="text-align: center;"><b><u>TB Class B2--LTBI</u></b></p> <p>➤ TST ≥ 10 mm induration</p>	<ul style="list-style-type: none"> <li>✓ Consider this client to have LTBI. Evaluate for signs and symptoms of TB disease that may have developed since their overseas exam.</li> <li>✓ Administer TST unless the client has documentation of a previous positive TST or positive IGRA.</li> <li>✓ Obtain CXR unless the client had repeated CXRs overseas showing improvement or stability <b>and</b> the most recent CXR was less than 3 months ago <b>and</b> client has films or CD. If HIV infected, repeat CXR regardless of previous CXR results.</li> <li>✓ Provide HIV counseling, testing, and referral. If HIV test is refused, reoffer HIV test monthly while on treatment for active TB disease.</li> <li>✓ It is a standard of practice in the US to offer treatment for LTBI in most cases. A stateside evaluation must be done before initiating LTBI treatment. Follow TB Medical Consultant's orders for treatment as indicated.</li> </ul>
<p style="text-align: center;"><b><u>TB Class B3—TB Contact</u></b></p> <p>➤ Contact overseas to a confirmed case of TB</p>	<ul style="list-style-type: none"> <li>✓ Evaluate for signs and symptoms of TB disease that may have developed since their overseas exam</li> <li>✓ Administer TST unless the client has documentation of a previous positive TST or positive IGRA</li> <li>✓ Obtain CXR for clients with positive TST or IGRA, and anyone with symptoms of TB disease regardless of the TST or IGRA result</li> </ul>

G Treatment:

1. All individual client physician orders will be generated into the PHIDDO record by the TB Medical Consultant.
2. Private physicians
  - a. Submit a copy of TB Medical Consultant's Order/Recommendations to the client's private physician for his/her review and file.
  - b. Discuss specific issues with the TB Medical Consultant when any private physician is concerned about a TB Medical Consultant's order or recommendation.
  - c. Scan copies of any written correspondence received from the private physician into the PHIDDO record and task or call physician for review.
3. Pyridoxine (Vitamin B6) Therapy: The nurse may increase B6 therapy to 100 mg/daily whenever tingling or numbness of the extremities occurs in a client taking INH and B6 50 mg. If client shows no improvement in symptoms within 2-4 weeks, call TB Medical Consultant for further recommendations.
4. Contact the TB Division if the client has been off therapy longer than they have been on or if medication regimen will not be completed within adequate therapy window below:

- a. 4 months of therapy completed within 6 months
  - b. 6 months of therapy completed within 9 months
  - c. 9 months of therapy completed within 12 months
  - d. 12 months of therapy completed within 15 months
  - e. 3HP regimen, 12 weeks of therapy completed within 16 weeks
5. PT must be started within 3 months of interp. DOT/Directly Observed Preventive Therapy (DOPT) must be started within 24 working hours of receipt of medication.
- H. Monitoring of clients on TB therapy:
1. Monitor all clients on therapy for possible adverse reactions at two weeks, four weeks and then monthly or as client status demands.
    - a. Perform a nursing physical assessment monthly. A home visit should be made to clients who are not physically able to come to the CHD for an appointment.
    - b. Make a monthly home visit to all children on DOPT who are not presenting to clinic for monthly follow up visits.
    - c. Inquire about symptoms of liver toxicity and paresthesia (numbness/tingling) of the extremities.
    - d. Call a TB Medical Consultant whenever there are any problems associated with therapy.
    - e. Give "Possible Side Effects" card ODH #270 to all clients on TB meds.
    - f. Refer to Fact Sheets for specific drug adverse reactions and interactions.  
[http://www.ok.gov/health/Disease\\_Prevention\\_Preparedness/Acute\\_Disease\\_Service/Disease\\_Information/Tuberculosis.html](http://www.ok.gov/health/Disease_Prevention_Preparedness/Acute_Disease_Service/Disease_Information/Tuberculosis.html)
  2. The TB Medical Consultant reviews all lab work performed by the contract lab. However, if the PHN receives significantly abnormal lab results from a facility other than the contract lab, the TB Medical Consultant should be notified by phone and the document attached to the Lab tab in PHIDDO.
  3. In addition to specific orders from TB Medical Consultants, draw Chemistry Survey and CBC when client reports symptoms of liver toxicity:
    - a. upper abdominal pain
    - b. persistent nausea and/or vomiting
    - c. tea-colored urine
    - d. jaundice
    - e. persistent anorexia
  4. Monitor clients receiving Ethambutol (EMB), Rifabutin, Linezolid, or Clofazimine therapy with visual acuity and Ishihara color vision exams.
    - a. Test visual acuity and color vision:
      - 1) prior to initiation of EMB, Rifabutin, Linezolid or Clofazimine

- 2) monthly as long as EMB, Rifabutin, Linezolid or Clofazimine therapy continues
  - 3) at conclusion of therapy with EMB, Rifabutin, Linezolid or Clofazimine
- b. Report any significant abnormality in visual acuity and/or color vision on the pre-treatment exam immediately by phone to a TB Medical Consultant.
  - c. Report baseline and all monthly test results in the PHIDDO record on the Scrg/PA tab.
5. Monitor all clients receiving aminoglycosides (Streptomycin, Amikacin, Kanamycin or Capreomycin, etc.) as follows:
- a. Arrange for monthly audiometric testing (must be performed by a licensed audiologist unless authorized by a TB Medical Consultant) and obtain a pre-treatment hearing exam before starting therapy and monthly as long as therapy continues. Perform a post-treatment hearing exam when therapy is stopped. Scan audiogram reports into PHIDDO record.
  - b. Perform tests of vestibular function before starting therapy, monthly throughout therapy and upon completion of therapy with any of the above drugs. Perform screening in accordance with the Vestibular Screening Worksheet. Report any deficits by phone immediately to a TB Medical Consultant.
  - c. Draw a Chemistry Survey before starting aminoglycoside therapy and monthly as long as therapy continues.
6. In **symptomatic** clients with liver enzyme (AST or ALT) elevation  $\geq$  three (3) times the upper limit of normal (120 IU/L), **TB medication should be held**. Contact the TB Medical Consultant by phone immediately if a symptomatic client is found to have an AST or ALT  $\geq$  120.
7. In **asymptomatic** clients with liver enzyme (AST or ALT) elevation  $\geq$  five (5) times the upper limit of normal (200 IU/L), **TB medication should be held**. Contact the TB Medical Consultant by phone immediately if an asymptomatic client is found to have an AST or ALT  $\geq$  200.
- I. DOT/DOPT (Refer to TB/DOT Manual)
- J. Follow Up of Previously Treated Persons
1. For all **asymptomatic** persons treated for active TB or who have taken PT in the past, who present for TB clearance, perform a symptom screen and document findings through "Skin Test" in PHIDDO.
  2. All persons treated for active TB, LTBI, or who have taken PT in the past presenting to the CHD with **symptoms** suggestive of tuberculosis should have:
    - a. PA and Lateral chest x-ray
    - b. HIV serology
    - c. TB Workup to include Nursing Physical Assessment.
    - d. Sputum for AFB smear and culture collected on three (3) consecutive days (24 hours apart).

3. Send chest x-rays marked "Priority Read" in PHIDDO under the following circumstances: ("Priority Read" **does not** mean Overnight Mail)
  - a. Any client who is exhibiting symptoms of TB
  - b. Any client that the TB Medical Consultant has directed that the x-rays be sent "Priority Read"
  - c. Children  $\leq 5$

V. TB CASE/SUSPECT REVIEW:

- A. The District Nurse Manager (DNM) will review all TB Cases and TB Suspects on a monthly basis with the PHN responsible for case management. This review is to insure Quality Assurance.
- B. The review will include:
  1. Status of therapy
  2. Any pending tests
  3. PHIDDO tasks
  4. Status of contact investigation
  5. Adherence to DOT/DOPT
  6. Any problems the PHN is experiencing with the client
  7. Social Service and Community Agency referrals
  8. PHIDDO reports

VI. ISOLATION OF TB CASES AND SUSPECTS:

- A. Recommend isolation (documentation section located on Comments tab) until you obtain Isolation and Compliance Orders from the TB Division through PHIDDO.
- B. Discuss all aspects of isolation and the possible consequences of not maintaining isolation with the client.
- C. Once you receive Isolation and/or Compliance Orders, have client sign "Return of Service" document. Scan signed Return of Service document to the PHIDDO record within 5 working days of issuing.
- D. Isolate all TB cases and suspects at home until the following criteria have been met:
  1. a minimum of 14 days or two weeks of TB therapy; **and**
  2. the receipt of three (3) consecutive negative AFB sputum smear reports, or culture reports if MDR/XDR case; **and**
  3. a reduction in client's symptoms.
- E. A written doctor's order to discontinue isolation is **NOT** required if client meets criteria above.
- F. Document in PHIDDO the date isolation is started and discontinued.
- G. All pulmonary TB suspects and cases will be confined to isolation at home, or in a state contracted facility or hospital until the client has met the OSDH requirements to discontinue isolation.

- H. If confined while hospitalized, the client will follow the infection control policies of the institution for the control of *Mycobacterium TB*.
  - I. If the client is confined to their home or another state-designated facility, the client will receive a minimum of five (5) days a week DOT until requirements to discontinue isolation have been met. In certain cases, seven (7) days a week DOT will be ordered at the physician's discretion.
  - J. During isolation, a client will be visited by the county PHN a minimum of once weekly to ensure isolation compliance, sputum collection, and/or blood draws. Additional visits are to be made by the PHN if a client's health status requires closer physical monitoring. All visits are to be documented in PHIDDO.
  - K. On Saturdays and Sundays when DOT visits are not made to the client, the PHN will make telephone contact with the suspected non-compliant isolated client and document in PHIDDO.
  - L. Telephone contacts and nursing visits are to be made on a varied time schedule to ensure that isolation is being maintained at all times.
- VII. CLIENT EDUCATION:
- A. Discuss/review and document the following with client and family: transmission/pathogenesis of TB, treatment and required follow-up, potential drug side effects/adverse reactions, rationale and process of contact investigation.
  - B. Provide educational handouts at initial visit and document.
- VIII. CONSULTATION AND REFERRAL:
- A. If DOT client is non-compliant, consult and coordinate follow-up with DNM, TB Medical Consultant and/or TB Nurse Consultant.
    - 1. Report when client misses three (3) daily doses and one (1) thrice-weekly or twice-weekly dose.
    - 2. Document steps taken to re-establish effective DOT.
  - B. If client is pregnant, consult with TB Medical Consultant.
- IX. CLOSING OF TB RECORDS:
- A. For LTBI (class 2) and inactive TB cases (class 4) the PHN may close the record if one of the following criteria has been met:
    - 1. The client completes the prescribed number of doses of therapy.
    - 2. If a client has missed two (2) or more monthly visits (non-compliance) or is lost to follow up, the record may be closed after completing the following:
      - a. Three (3) attempts to contact; may be phone calls and/or letters
      - b. If no response within seven (7) days, consult DNM and close record
      - c. Document all attempts in PHIDDO

3. If the LTBI or inactive TB client declines TB therapy, a Refusal letter is to be signed by the client. (The Refusal letter may be found in PHIDDO under "Resources".)  
Educate client on TB signs/symptoms and instructions to return to the local health department or private physician for evaluation if symptoms should develop. After reviewing with DNM, a copy of this letter is placed in PHIDDO and the record is closed.
- B. Active TB cases (Class 3)
1. Close the record if one of the following has been met:
    - a. upon completion of the specified number of doses of TB therapy and contact investigation completion
    - b. upon client death and contact investigation completion
    - c. as directed by the TB Medical Consultant
  2. If the client moves to another county within the state, update PHIDDO with new demographics and jurisdiction. Notify the TB Division by telephone at 405-271-4060.
  3. If the client moves out-of-state, document forwarding address and phone number in PHIDDO, then notify the TB Division at 405-271-4060.
- C. Resources for Educational Materials
1. <https://www.cdc.gov/tb/>
  2. [https://www.ok.gov/health/Disease\\_Prevention\\_Preparedness/Acute\\_Disease\\_Service/Disease\\_Information/Tuberculosis.html](https://www.ok.gov/health/Disease_Prevention_Preparedness/Acute_Disease_Service/Disease_Information/Tuberculosis.html)
  3. [www.thoracic.org](http://www.thoracic.org)
  4. <http://www.heartlandntbc.org/>
  5. <http://www.cdc.gov/tb/education/ssmodules/default.htm>

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American Thoracic Society and CDC. Diagnostic standards and classification of tuberculosis in adults and children. *Am J Respir Crit Care Med* 2000; 161. Retrieved from [Http://ajrccm.atsjournals.org/cgi/content/ful/161/4/1376](http://ajrccm.atsjournals.org/cgi/content/ful/161/4/1376)

CDC. Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care settings, 2005. *MMWR* 2005; 54 (No. RR-17). Retrieved from <http://www.cdc.gov/tb/publications/guidelines/infectioncontrol.htm>

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