

**TUBERCULOSIS CONTROL PLAN
IC1.3**

Louisiana State University
Health Sciences Center

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Table of Contents

When to Isolate	3
How to Isolate	3
Discontinuation of Isolation.....	4
Discharge	4
Time to Leave a Room Vacant	5
Readmission.....	5
Room Sharing	5
Pediatric Patients.....	5
Close Contacts	6
The TB Isolation Room	6
Transportation Outside of the Isolation Room.....	6
Cough-inducing and Aerosol Generating Procedures.....	7
Special Considerations for Bronchoscopy	7
Unit Specific Considerations	8
Failure to Isolate Appropriately	9
Health-care Worker Screening/Counseling	10
Screening Methods.....	11
TB Skin Testing	11
Management of Health Care Workers with TB	12
Counseling of Health Care Worker.....	13
Investigation of Active TB Among Health Care Workers.....	14
Investigation of Contacts/Exposures of Active TB Cases	14
Periodic Reassessment of TB Data.....	15
Responsibility of TB Program	15
Risk Assessment	15
References.....	17
Attachment 1: Rooms with Negative Pressure	18
Attachment 2: Medical Confinement of Patients with Active TB Who Refuse Treatment.....	19
Attachment 3: Physician Emergency Confinement Certificate	21
Attachment 4: Air Changes Per Hour and Time in Minutes Required for Removal Efficiencies of 90% of Airborne Contaminants.....	23
Attachment 5: Employee Health Questionnaire	24
Attachment 6: TB Skin Test Record.....	25
Attachment 7: Summary of TB Evaluation	26
Attachment 8: Risk Assessment.....	27

TUBERCULOSIS CONTROL PLAN

WHEN TO ISOLATE FOR TUBERCULOSIS OR SUSPECTED TUBERCULOSIS

- If the doctor orders isolation.
- If the doctor orders AFB laboratory test on sputum
- If the patient's diagnosis is pulmonary or laryngeal tuberculosis or R/O TB. Tuberculosis that is not pulmonary or laryngeal in nature does not necessitate respiratory isolation. If you do not know the site of infection, isolate until you are certain that it is not pulmonary or laryngeal.
- Suspect TB if the patient has a persistent cough and is among these groups:
 - ✓ Elderly
 - ✓ Homeless
 - ✓ Prisoner at any time in any jail
 - ✓ Alcoholic or IVDA
 - ✓ Person with AIDS or HIV infection
 - ✓ Foreign born where TB is endemic (Mexico, Latin America, Asia, India, Caribbean)

INITIATION OF TREATMENT

- Patients with confirmed active TB or highly likely to have active TB, should be started on appropriate treatment promptly, according to current guidelines.
- TB medications given in the hospital should be administered by a licensed nurse or physician who observes the patient ingesting the medications.

INITIATION OF ISOLATION

The following persons may initiate isolation according to current CDC guidelines at:
<http://www.cdc.gov>

- The patient's physician
- The charge nurse
- Infection Control Practitioner

HOW TO ISOLATE

- Place a mask on the patient immediately, and keep it on until he is in a negative pressure room.
- Place in RESPIRATORY ISOLATION in a negative pressure, private room as soon as possible. The door should remain closed at all times.
- Call Physical Plant to come and check the room pressure. (See Attachment 1: Rooms with Negative Pressure.)
- Put a Respiratory Isolation sign on the door, and be sure the instructions are followed, including reassessment.
- Provide tissues, and instruct the patient to cover his mouth and nose whenever coughing or sneezing, use the tissue only once, and discard in the trash can.
- Wear an N-95 (orange duckbill mask) every time you enter the room.
- Educate the patient and his visitors regarding isolation, the need for visitors to wear an N-95 mask whenever they are in the room, and the consequences of failing to wear the mask.
- Management of withdrawal from addictive substances (including tobacco) should be addressed to facilitate the patient's compliance with isolation.
- WASH YOUR HANDS upon leaving the room, and advise visitors on hand washing.

- The charge nurse or house manager should notify Infection Control at 675-5110 when a patient is placed in TB or R/O TB isolation.

DISCONTINUATION OF ISOLATION:

- Patients placed in respiratory isolation pending completion of the physician's initial assessment may be removed from isolation when the assessment is complete, and isolation is no longer deemed necessary by the attending staff.
OR
- When 3 consecutive sputum smears, collected at least 8 hours apart, are negative for AFB and the patient's physical signs and symptoms have improved.
OR
- In the absence of 3 negative sputum smears, a consultation from the Pulmonary or Infectious Disease physician has been obtained and they agree to discontinue isolation.

DISCHARGE FROM THE HOSPITAL

NON-INFECTIOUS

- Patients are considered **non-infectious** if they meet the following criteria:
 - ✓ Have received adequate therapy for 2-3 weeks
 - ✓ Have a favorable response to therapy, with decreased symptoms, and
 - ✓ Have three consecutive negative sputum smears collected at least 8 hours apart or meet the criteria described for discontinuation of isolation.

PATIENTS WHO MAY BE INFECTIOUS AT THE TIME OF DISCHARGE TO HOME

- Occasionally patients may be discharged to home prior to completion of prescribed therapy. If the patient meets the following criteria, he is discharged when the physician no longer deems hospitalization necessary:
 - ✓ Demonstrates willingness and capability to be compliant with his treatment regimen
 - ✓ Demonstrates understanding of his disease.
 - ✓ Has been taught by the nurse and physician how to confine and contain the spread of disease
 - ✓ Patient's living situation is compatible with disease management. Evaluation includes health status of household members. If there are high risk, uninfected household members, such as those under 4 years of age or immune compromised, arrangements have been made to prevent them from being exposed until the TB patient has been determined to no longer be infectious.
- Discharge to home is the responsibility of the primary care physician. If there are any questions, consultation with Infectious Disease Department or Pulmonary Medicine Department is advised.

PHYSICIANS

- A discharge summary and a prescription for subsequent TB medication with number of refills are written by the physician are to be sent to Public Health Clinic by the case manager.

CASE MANAGEMENT FOR DISCHARGED PATIENTS

- Nursing or physician notifies Case Management of pending discharge.
- An appointment is made prior to discharge for follow-up with the Public Health Clinic within two weeks. (318-676-5010)

- Case management will assure that one month's supply of daily medication is filled by the hospital pharmacy and given to the patient.
- Home health arrangements are made, if appropriate. The home health agency is notified of the patient's diagnosis. The out patient case manager follows all home health readmissions, and notifies the Infection Control Department if a home health patient is readmitted with tuberculosis. Exposures within the Home Health agency are reported to the Public Health Clinic by case management.

PATIENTS THAT MAY BE INFECTIOUS AND DESIRE TO LEAVE AGAINST MEDICAL ADVICE

- Medical confinement of patients with active tuberculosis who refuse treatment is provided for in Infection Control Policy IC 28.0 "Medical Confinement of Patients with Active Tuberculosis who Refuse Treatment", and complies with Title 40 of the Louisiana Revised Statutes, Section 17, (Attachment 2).
- A patient who is infected with tuberculosis in an active and communicable state, who refuses treatment for tuberculosis against medical advice may be detained for a period not to exceed 15 days by an emergency certificate executed by the hospital's Infectious Disease physician or Pulmonary Disease physician. (Attachment 3)
- If a patient with active tuberculosis leaves against medical advice, University Police Department is contacted, and the Public Health Clinic is immediately notified.

TIME TO LEAVE A ROOM VACANT

After a TB or R/O TB patient has been discharged from a patient room, procedure room, or operating room, the room should be left vacant with the doors closed for a specific period of time to assure adequate filtration of the air. Please call Physical Plant for the specific air changes per hour of the room in question, and then refer to the chart, "Air Changes Per Hour and Time in Minutes Required for Removal Efficiencies of 90% of Airborne Contaminants," (Attachment 4), at the back of this guideline.

READMISSION

- If a patient with previously diagnosed TB is readmitted before confirmation of complete cure, he should be placed in TB isolation until infection has been ruled out by x-ray, three consecutive negative smears, or documented treatment and clinical improvement by a physician.

ROOM SHARING (COHORTING)

- Cohorting of patients with R/O TB or confirmed TB is strongly discouraged. A patient with a diagnosis of R/O TB is not permitted to share a room with any other patient unless Infection Control is first consulted. Patients diagnosed with pulmonary or laryngeal infection with mycobacterium tuberculosis confirmed by a positive culture may share a room if both are AFB smear positive.

PEDIATRIC PATIENTS WITH KNOWN OR SUSPECTED TB

- Pediatric patients should be evaluated for potential infectiousness as are adults, on the basis of symptoms, sputum AFB smears, gastric aspirate, radiological findings, and other criteria.
- In children, the onset of TB is usually asymptomatic and may be far advanced before fever and weight loss begins. A productive cough is extremely rare; therefore obtaining gastric aspirates collected on separate days, to support

diagnosis should be considered. See Pediatric Red Book for complete information.

CLOSE CONTACTS

- Close contacts are people who live with or spend extended periods of time with the patient.
- If the patient is highly suspicious for TB or TB is confirmed, close contacts are:
 - ✓ Given a mask, and are asked to wear it when leaving the patient's room until they are medically screened and cleared, especially if they exhibit a cough or other symptoms of TB.
 - ✓ Asked to refrain from visiting common areas of the hospital, such as the cafeteria.
 - ✓ Advised to report to the local health unit, the ECC, or their personal physician as soon as possible for TB testing.
 - ✓ Especially encouraged to seek screening if they are immunocompromised, or less than 4 years of age.
 - ✓ Immune suppressed contacts, or contacts under 4 years of age, should receive a chest x-ray, regardless of the PPD test result, because of the possibility of a false-negative reaction to the TB skin test, and the risk of disease progression.

THE TB ISOLATION ROOM

- A single patient room with negative pressure is provided, except as necessary under "ROOM SHARING/COHORTING."
- Must be maintained under negative pressure with a minimum of six air exchanges per hour, and air not circulated into the general ventilation.
- Negative pressure is monitored daily by Physical Plant when occupied for respiratory isolation.
- Negative pressure rooms are checked monthly by Physical Plant when not occupied for respiratory isolation.
- The charge nurse notifies Physical Plant on admission and daily when the room is occupied for respiratory isolation.
- The charge nurse notifies Physical Plant on discharge from MICU or SICU in order for the filter to be changed.
- The immunocompromised patient requiring protective isolation and who also has TB, rule-out TB, or some other condition requiring airborne isolation (i.e. chickenpox, measles, herpes zoster) has special requirements. Contact Infection Control for guidance.

TRANSPORTATION OUTSIDE THE ISOLATION ROOM

- Rule out and TB patients should remain in the isolation room for all possible procedures. When they must travel outside their room, place a mask on the patient. Assess thoroughly to assure that the patient can tolerate the mask. Transport as quickly as possible to avoid having to wear the mask for longer than 15 minutes at a time.
- Notify the receiving unit of the patient's isolation status prior to transport.
- If the patient is transferred to another facility while still in isolation, the receiving facility will be notified of isolation before the transfer.

COUGH INDUCING AND AEROSOL GENERATING PROCEDURES

Cough inducing procedures are those which involve instrumentation of the lower respiratory tract or cough induction. They include sputum induction, endotracheal intubation, suction with open systems, aerosol treatments (including pentamidine therapy), and bronchoscopy. Other procedures that may generate aerosols, such as irrigation of TB abscesses, homogenizing or lyophilizing tissue are also included in these recommendations.

- Cough inducing procedures on patients with active TB will not be performed unless absolutely necessary.
- Non emergent bronchoscopies for patients with suspected TB shall be performed in the bronchoscopy procedure room in the Endoscopy Clinic or in a negative pressure room.
- All cough inducing and aerosolizing procedures must be performed in negative pressure rooms or in a local exhaust ventilation booth or special enclosure.
- Rooms that may be used for sputum induction are:
 - ✓ Isolation rooms with negative pressure and anteroom.
 - ✓ If an exam room is used, it must be tested for negative pressure prior to the procedure and left vacant for the appropriate minutes following the procedure (See attachment 4).
 - ✓ Rooms without negative pressure **ARE NOT USED!**
- Only people necessary to perform the procedure are allowed in the room during the procedure.
- N-95 masks must be worn by all people present during the procedure, except the patient.
- After completion of the procedure, patients with known or suspected TB will remain in the isolation room or booth until coughing subsides.
- Patients are given tissue and instructed to cover the mouth when coughing.
- If patients must recover from a sedative, they will be monitored in a separate TB isolation room or the procedure room, but not in the recovery room with other patients.

SPECIAL CONSIDERATIONS FOR BRONCHOSCOPY

If bronchoscopy is performed on a patient that may have TB, it must be performed in a room that meets ventilation requirements.

- Endoscopy Clinic: Bronchoscopy for TB or R/O TB will be performed in the bronchoscope suite only. Patients will be recovered in the bronchoscope suite.
- SICU & MICU: Isolation room, with negative pressure.
- Otolaryngology scope: Done in negative pressure room with six air exchanges.
- Bronchoscopy in the OR: See guidelines in OR department, and unit specific considerations below.
- Bronchoscopy in any other area: Must be done in single room with negative pressure, 6 air exchanges with 2 air exchanges to the outside.
- Preferred area for bronchoscopy is the Endoscopy Clinic bronchoscopy suite.

UNIT SPECIFIC TUBERCULOSIS CONSIDERATIONS

AMBULATORY CARE AND EMERGENCY ROOMS

- Upon initial contact, assess the patient for signs and symptoms of TB. A diagnosis of TB will be considered in any patient who gives a history of:
 - ✓ Persistent cough of over 2 week's duration
 - ✓ Fever
 - ✓ Weight loss
 - ✓ Anorexia
 - ✓ Night sweats
 - ✓ Bloody sputum
- If the patient has symptoms of TB, immediately mask the patient, and follow instructions outlined in "How to Isolate."
- Take steps to expedite evaluation, and minimize the time the patient spends in Ambulatory Care or the ER.
- If the patient will be in an area without negative pressure rooms for more than two (2) hours contact Infection Control at 5-5110.
- Clinic patients will be given appointments to prevent unnecessary exposure to other patients, especially
- TB precautions will be followed for patients who are known to have active TB and who have not completed therapy until a determination has been made that they are non-infectious.
- Patients who have confirmed active TB or are highly likely to have TB will be started on appropriate treatment, and referred to Public Health.

SURGERY, LABOR AND DELIVERY FOR PATIENTS WITH R/O TB OR KNOWN TB

- Bronchoscopies in the OR suite are discouraged if a diagnosis of TB is suspected. They should be performed in the Endoscopy Clinic whenever possible. If they must be done in the OR, the doors should remain closed, and the room vacated for 15 minutes before the next case is set up.
- Elective surgery patients with symptoms of TB should be thoroughly evaluated, including a chest x-ray interpreted by a radiologist or attending staff physician prior to the day of the procedure.
- Elective procedures on patients with R/O TB or TB should be delayed until the patient is no longer infectious.
- If a surgical procedure must be performed on a patient with R/O TB or TB, OR doors should remain closed, and traffic limited.
- Surgery should be scheduled at a time when other patients are not present in the operative suite.
- A filter is placed on the anesthesia ventilator's inhalation and expiratory sides of the circuit for general anesthesia.
- Personnel will wear N-95 TB masks.
- The OR room will be left vacant and the door closed for 15 minutes after the infected patient is removed from the room.
- The patient will be recovered in the operating room.
- Laboring and vaginal delivery patients with R/O TB or TB are performed in 4K-19, which is a negative pressure room.

AUTOPSY ROOMS

Autopsy rooms must be at negative pressure with respect to adjacent areas, with room air exhausted directly to the outside of the building. Autopsy rooms should have ventilation that

provides 12 total air changes per hour. An N-95 mask is worn by all personnel while performing autopsies on patients who may have had TB.

- Doors must be kept closed.
- In cases of documented, disseminated TB, or TB involving bone, bone or power saws should not be used. (This would preclude examination of the brain because the caldarium must be cut. This produces an enormous amount of aerosol.)

LABORATORY

- Biosafety level 2 practices, containment equipment and facilities as recommended by the CDC and NIH manual, *Biosafety and Microbiology and Biomedical Laboratories*, is used for all specimen handling and processing procedures. These manuals are located in the Clinical Laboratory Office.
- Skin testing is performed on all appropriate laboratory employees annually and as indicated.
- As soon as growth is detected, nucleic acid probes are used to identify MTB and Mycobacterium avium-intracellare organisms. Organisms are sent to the State Laboratories for drug susceptibility testing.
- The Lab notifies the patient's physician, nursing unit where the patient is housed, case managers, coordinator of the Public Health TB program, Occupational Health, and Infection Control of all newly positive smears and culture findings.
- The Louisiana State Health Department notifies other state health departments (Texas, Arkansas, etc.)
- Results of concentrated AFB smears will be available from the mycology Lab within 36 hours of receipt and within 52 hours, on weekends, and holidays.
- All mycobacterium cultures are held at least 6 weeks before closing out as "No Growth."

CARDIOPULMONARY SERVICES

- Pentamidine aerosol treatments are performed by Cardiopulmonary Services.
- An aerosol booth is available for pentamidine administration and sputum induction.
- See Cardiopulmonary services manual for further information.

ORAL SURGERY CLINIC

- Check the waiting room periodically, and if there are patients coughing, offer them tissues, and place them in a single room as soon as possible.
- During routine screening, ask if the patient has a history of TB or symptoms of TB. If symptoms are present, mask the patient and place in a single room. Refer patients who have symptoms of TB for a prompt medical evaluation.
- Elective treatment is deferred until a physician confirms that the patient does not have infectious TB.
- If urgent surgery must be provided for a patient suspicious for or diagnosed with active TB, healthcare workers shall wear a TB (N-95) mask. The door to the room will be kept closed, and traffic will be minimized. The room should be vacated according to Table 1 before the next case is opened.

FAILURE TO ISOLATE APPROPRIATELY

When personnel fail to assess patients appropriately for TB, and the patient is diagnosed with active TB, a variance report is written by the unit supervisor in the department where the incident occurred.

HEALTHCARE WORKER SCREENING AND COUNSELING

DEFINITION: Healthcare worker (HCW) refers to all persons receiving a paycheck from LSUHSC and/or volunteers.

CONFIDENTIALITY: Data concerning individual HCWs is confidential. Medical data concerning TB status, active TB and concurrent health considerations, including those with potential for an immunocompromised status, shall be confidential and released only with the request and consent of the individual HCW except as provided by state and federal laws. Supervisors will be notified of employees who convert to (+) PPDs and of employees with active TB as they have monitoring responsibilities for these individuals.

SCREENING OF HCWS FOR TB

- TB testing is mandatory for all HCWs/volunteers/students who are housed in the hospital proper, or its outpatient clinics and those who have face to face contact with patients. They are screened at the time of employment, and annually by the Occupational Health Clinic. Based on risk assessment or exposure to TB, HCWs may be screened more often. Occupational Health will send notices for repeat TB testing prior to the assigned date for testing/evaluation.
- Supervisors are responsible for assuring that their employees complete annual TB testing as required for their area by the last day of the month in which their unit is assigned. When necessary, the supervisor may utilize disciplinary action to bring the employee into compliance. A copy of the TB skin test will be given to each employee to take to their supervisor.
- Any HCW with a cough for more than two weeks, especially in the presence of other symptoms or signs of TB should report to Occupational Health for evaluation of TB.
- The HCW should not return to work until TB is excluded or the HCW is on anti-tuberculosis medicines, receiving directly observed therapy, and has three separate negative sputum smears done on separate days no less than 8 hours apart.
- Human Resources shall schedule new employees with Occupational Health for TB screening.
- If an individual fails to report for the screening appointment, Occupational Health will schedule a second appointment and notify the employee and the employee's supervisor of the employee's failure to keep the appointment, and the date/time of the second appointment.
- The Director of Quality Management will be notified of employees who fail to keep their appointments.
- The following persons will not be screened routinely. It is the responsibility of their institutions to conduct screening and provide documentation of such. These persons may have screening performed by the LSUHSC Occupational Health Clinic when circumstances indicate the necessity.
 - ✓ VAMC employees
 - ✓ Consultative staff
 - ✓ Students from other affiliated colleges and universities
 - ✓ Employees of contractors

SCREENING METHODS FOR EMPLOYEES

- Occupational Health screening will include (Attachments 5 and 6):
 - ✓ Medical history indicative of previous risk of exposure, TB infection, and treatment.
 - ✓ Previous TB skin test results
 - ✓ Vaccination with Bacillus of Calmette and Guérine (BCG)
 - ✓ Signs and symptoms of TB

- Previous positive TB skin test
Written documentation of previous positive skin test or INH therapy will be required. Except for unusual situations, these individuals shall not receive further TB skin testing by Occupational Health. At the time of employment, annually, and during TB exposure evaluation, a TB status evaluation will be performed on all employees with a previous positive TB skin test.
Individuals with a history of previous BCG vaccination will receive initial and periodic TB testing unless they provide documentation of a positive TB skin test done as an adult a year or more after receiving BCG.

- Fit Testing and Fit Checking
Fit Testing for TB masks will be conducted, and fit checking will be taught, at the time of initial and annual TB screening. It will be performed by the Occupational Health Clinic in accordance with nationally recognized protocols and guidelines. The approved mask for employee use in respiratory isolation will meet or exceed N-95 standards.

TB TESTING METHODS

- Intradermal (Mantoux) administration of Purified Protein Derivative (PPD) shall be the only testing method used by Occupational Health.
- The PPD test will be read by Occupational Health nurses, Occupational Health physician, or Occupational Health designee 48-72 hours after the injection. Self reading is not acceptable. The transverse diameter of induration will be recorded in millimeters on the form (Attachment 2); “negative,” “borderline and “positive” are not acceptable.

PATIENT SCREENING AND EVALUATION OF SKIN TESTS

- Induration of > 5 mm is classified as positive in:
 - ✓ Recent contacts of TB case
 - ✓ Fibrotic changes on chest x-ray consistent with TB
 - ✓ Immunosuppressed individuals, including those with HIV, organ transplants, or those receiving the equivalent of 15 mg/d Prednisone for at least 1 month

- Induration of > 10 mm is classified as positive in:
 - ✓ Recent arrivals (<5 years) from high prevalence countries
 - ✓ IV drug users
 - ✓ Residents and employees of high risk, congregate settings (prisons, jails, nursing homes, residential facilities for AIDs patients, homeless shelters)
 - ✓ Mycobacteriological laboratory personnel

- ✓ Persons with clinical conditions that make them high risk (silicosis, diabetes mellitus, chronic renal failure, certain hematological disorders, leukemias, lymphomas, carcinoma, and weight loss of at least 10% of ideal body weight, gastrectomy, and jejunoileal bypass).
- Induration of > 15 mm is classified as positive in persons with no risk factors for TB.
- Induration of 0 through 4 mm is classified as “negative”.
- Two step method: Occupational Health will consider the two step method to detect boosting phenomena that might be misinterpreted as skin test conversions. The second step will consist of administering a 0.1 ml PPD intradermally at a different site on the forearm 1 to 3 weeks after the first PPD, and reading it at 48-72 hours after administration. The two step testing method will be considered for individuals as follows:
 - ✓ Individuals with 5-9 mm of induration at 48-72 hours for the initial PPD Mantoux
 - ✓ HCWs that have not had a TB test within the previous 12 months

EVALUATION AND MANAGEMENT OF HCWs WITH POSITIVE PPD TEST

- All HCWs with new PPD positive tests or PPD test conversions will be evaluated by Occupational Health for the presence of laryngeal or pulmonary TB. Evaluation will consist of the following:
 - ✓ Clinical signs and symptoms of laryngeal or pulmonary TB
 - ✓ Chest X-ray and sputum for AFB, if symptomatic for active TB
 - ✓ Referral to the Public Health Clinic if indicated
 - ✓ If the source of exposure is known, drug susceptibility of the source MTB isolate will be provided to the Public Health Clinic diagnostician

MANAGEMENT OF ACTIVE TB IN HCWs

- Employees who are symptomatic for laryngeal or pulmonary TB are excluded from work until a final diagnosis is determined and appropriate follow-up is completed.
- HCWs with active laryngeal or pulmonary TB will be excluded from work until they are no longer infectious.
- The HCW may return to work when Occupational Health has adequate data as follows:
 - ✓ The cough, expectoration, and other symptoms are resolved
 - ✓ The HCW has at least three consecutive negative AFB smears obtained no less than 8 hours apart
 - ✓ The HCW is receiving effective antituberculosis medications by direct observed therapy
 - ✓ The HCW is maintained on therapy, remains AFB sputum smear negative, and has medical follow-up
 - ✓ HCW with TB that is not in the lungs, larynx, or pharynx usually do not need to be excluded from work
- The HCW will be excluded from work if treatment is stopped before the recommended course of antituberculosis medications has been completed. If

treatment is resumed, with an adequate response to therapy and 3 consecutive negative sputum smears are documented, work may be resumed.

- HCW who have a positive skin test may continue their work schedule once active TB has been excluded.

MANAGEMENT OF LATENT TB IN HCWs

- HCWs with a positive skin test, but without active TB (latent TB Infection) who cannot take or do not complete full course of preventive therapy will be counseled and instructed regarding the risk of developing active TB, and advised to seek medical care if symptoms of TB develop.
- HCWs that have a positive skin test at the time of employment will be referred to the Public Health Clinic or to their private physician for consideration of preventive therapy. The HCW must provide documentation of the evaluation and recommendations of the physician providing the exam to Occupational Health.
- HCWs who convert from negative status to positive PPD during their employment shall be provided preventive therapy issued by the Occupational Health Clinic at no cost to the HCW if their medical evaluation indicates the need for preventive medicines.
- Occupational Health personnel will follow the HCW and obtain laboratory studies as medically indicated. Monitoring will ordinarily be done monthly. The duration of preventive therapy will be based on the individual HCWs situation and Public Health recommendations.

COUNSELING OF HCW

- Counseling at the time of employment:
Occupational Health Nurses will counsel individuals at the time of the new employee evaluation. Counseling will include information about initial and subsequent tuberculin testing, and the importance of reporting to Occupational Health any medical conditions which have potential for an immunocompromised state (i.e., HIV positive, chemotherapy of neoplasms, and those who have had organ transplants).
- Training and group counseling:
Newly employed HCWs shall receive training and group counseling regarding the Tuberculosis Control Plan as part of new employee training. Personnel records will document the individuals who attend these training sessions. The individuals who attend these sessions will be documented in the Orientation Training Record.
- Periodic counseling:
Occupational Health will give counseling to individuals at the time of periodic TB testing/evaluation and/or exposure testing/evaluation.
Refresher training and group counseling: Employees receive ongoing safety training, periodic refresher training and group counseling including the review of the TB Control Plan. Those attending formal refresher training will be documented.
- Counseling for immunocompromised employees:
Individuals who identify themselves as immunocompromised will be counseled concerning the need to unwaveringly follow practices and procedures in the TB Control Plan to minimize exposure to TB. When determined appropriate by medical evaluation, per the Medical Director of the Occupational Health Clinic, reasonable efforts to offer such alternative job assignments are undertaken.

Individuals who identify themselves as immunocompromised will be counseled to have appropriate follow-up and screening for infections, including TB.

TUBERCULIN SKIN TEST DATA

In addition to documenting the TST result in the employee health file, Occupational Health personnel will enter data into the health files on the mainframe computer. Thus an aggregate database of all HCW TST results will be retrievable.

On an annual basis, and more often if necessary, Occupational Health personnel will report to the Infection Control Committee the conversion rate and compliance rate of all units tested.

INVESTIGATION OF ACTIVE TB CASES AMONG HCWs

- HCWs that develop active TB will be interviewed to determine potential contacts, including other HCWs, patients, and visitors. This information will be sent to the Public Health Department. LSUHSC employees that are exposed will be followed by the Occupational Health Clinic of LSUHSC.

INVESTIGATION OF CONTACTS/EXPOSURE OF ACTIVE TUBERCULOSIS CASES

- When TB exposure occurs due to failure to recognize or isolate appropriately, efforts will be made to identify HCWs and patients who were exposed.
- The concentric circle approach to assist in the assessment of the TB patient's level of infectiousness is used. The TST status of close contacts is obtained from the Public Health TB Coordinator. If household contacts of the infected patient are over 20% positive, the ICP performs an investigation of any contacts within the hospital. If less than 20% are positive among household contacts, the investigation within the hospital is terminated. If the next level of contacts reveals a higher conversion rate than 20%, the ICP is notified by Public Health. A discussion with the Director of Infection Control and Chief of Infectious Diseases will be held to determine appropriate actions.
- A list of people who were possibly exposed will be generated by the manager of the unit(s) where the exposure occurred. The list of employees exposed will be sent to Occupational Health, and the list of patients will be sent to the Infection Control Department.
- Exposed employees will be followed by the Occupational Health Department.
- Infection Control and Occupational Health will consult with the unit manager(s) to identify people on the list who were in contact with the infected patient for more than 2 hours.
- Employees exposed for more than 2 hours will be skin tested according to Occupational Health Protocol at the baseline and again at 10-12 weeks post exposure. Regardless of the conversion rate of close contacts, HCWs with the following contacts will be evaluated by Occupational Health:
 - ✓ Close contact during the intubation without wearing PPE.
 - ✓ Present during cough inducing procedures without wearing PPE.
 - ✓ Patient coughing without covering mouth, and HCW present without PPE.
 - ✓ In room with patient for less than 2 hours if minimum ventilation is less than six air exchanges per hour.
- At the direction of the Infection Control Department, the unit manager where the exposure occurred will contact the physicians of patients who were exposed for more than 2 hours. If the patient is still in the hospital, skin testing will be performed at the physician's discretion. If the patient has been transferred to another facility, the patient's physician will contact the receiving physician of that

- facility. If the patient has been discharged to home, Infection Control will provide the patient's name and essential information to the Public Health Department.
- Infection Control is responsible for providing a list of exposed patients to the Public Health Department.
 - The record of the index case will be examined to determine why the diagnosis was delayed.
 - Cases of active TB in patients will be continuously monitored by the Infection Control Department. Possible patient to patient transmission will be considered when there are:
 - ✓ Clustering of cases on certain hospital wards
 - ✓ There is a sudden or significant increase in the number of active TB cases

PERIODIC REASSESSMENT OF TB DATA

TB data will be periodically reassessed for frequency of active TB cases and patient to patient transmission. The data analyzed will include results of TST conversions, number of active TB cases, clustering of cases, patient to patient transmission, and community infection rates furnished by the Public Health Department. This reassessment will be reviewed and approved by the Infection Control Committee.

RESPONSIBILITY FOR THE TUBERCULOSIS PROGRAM

- The TB Control Program is assigned to a task force consisting of the following:
 - ✓ Chief of Infectious Diseases
 - ✓ Director of Infection Control
 - ✓ Infection Control Practitioners
 - ✓ Statewide TB Medical Consultant
 - ✓ Regional Director-TB Program, Public Health Unit
 - ✓ Chief of Medical Services, VAMC
 - ✓ Occupational Health Nurse
 - ✓ Assistant Director, Microbiology Lab
 - ✓ Nurse Case Manager, Medicine Service
- Dr. Robert Penn, Chief of Infectious Diseases, is the designated contact person (x 5-5900, Beeper 0921).
- The task force reviews the TB control guidelines every two years, and convenes as necessary.
- This task force, through the Infection Control Committee, has authority to implement the general TB infection control policies.
- It is the responsibility of department heads and managers to enforce the TB Control Program in their departments.
- The department head is accountable to assure that their department has TB guidelines appropriate for their specific practices.
- Departmental policies should be reviewed by the Director of Infection Control before implementation.
- Department heads are responsible for assuring that their employees are in compliance with the TB skin testing program.

RISK ASSESSMENT*

- The Infection Control Committee and the TB Control Task Force determines the risk assessment for each group of HCWs. This is based on a TB assessment in the

community provided by the Public Health Department, previous patients with TB, drug susceptibility patterns, and skin testing results.

- Risk assessment for the facility may also include interval studies regarding timing, appropriateness, collection, and outcomes of AFB smears and cultures, and compliance with isolation guidelines.
- The frequency of risk assessment is based on the results of the most recent skin testing data.
- The risk assessment data is kept in the Occupational Health Clinic.
*See Attachment 8.
- The risk classification which determines the need for TB screening and frequency of screening of HCWs is Medium Risk. The classification of medium risk is applied to settings in which the risk assessment has determined that HCWs will or will possibly be exposed to persons with TB disease or to clinical specimens that might contain *M. tuberculosis*.

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Rooms with negative pressure include:

D Wing		G Wing		J Wing		K Wing	
Floor	Rm	Floor	Rm	Floor	Rm	Floor	Rm
2 nd Fl	D-15 (14) D-7 (16)	2 nd Fl	28 33	1 st Fl BICU	10	4 th Fl	19
3 rd Fl NSICU	4 8 10 11D	3 rd Fl	22	3 rd Fl SICU	8 (5) 9 (6) 10 (8) 11 (9)	6 th Fl	21* 22
3 rd Fl B- Wing Endoscopy Rm 7							
		4 th Fl	22 33*	5 th Fl PICU	3 4 12 16 17	7 th Fl	21* 22 27 28*
		5 th Fl	18 19 42 43	6 th Fl	11 18	8 th Fl	21* 22 27 28*
		6 th Fl	28 33*	7 th Fl MICU	10 12 14 16	9 th Fl	21* 22 27 28*
		7 th Fl	28 33*			10 th Fl	21* 22 27 28*
		8 th Fl	28 33*				
Emergency Care Center							
B1-15	B1-42	D1-89	D1-91	O1-111	O1-113	O1-57	O1-68
B1-41	D1-87	D1-90	O1-110	O1-112	O1-114	O1-66	O1-69
Psych Crisis	O-318 O3-19 O-333	Fast Track	O-226 O-228				
Ambulatory Care Center							
1005	1065	2002	2119	2192	3047	3216	
1006	1084	2003	2128	2193	3113		
1010	1090	2037	2129	2196	3114		
1064	1238	2118	2181	2205	3131		
Eye Clinic	160	Viral Disease Clinic 120 121		Women and Children Center 1-154 1-164 1-192 2-139 2-157			

MEDICAL CONFINEMENT OF PATIENTS WITH ACTIVE TUBERCULOSIS WHO REFUSE TREATMENT

Purpose:

To establish the procedure by which LSUHCS-S shall enforce Title 40 of the LA Revised Statutes, Section 17, authorizing the emergency medical confinement of patients with active tuberculosis who refuse treatment.

Title 40 of the Louisiana Revised Statutes; Section 17

“A person who is infected with tuberculosis in an active and communicable state, who is a patient in a hospital and who, refuses treatment for tuberculosis against medical advice may be detained and held in a hospital for a period not to exceed fifteen days by an emergency certificate executed by the hospital’s infectious disease control physician or pulmonary disease physician in accordance with the procedure set forth in this section.”

Policy:

1. Preparation and issuance of any emergency certificate for the purpose of detaining and holding a patient shall be executed by the hospital’s Infectious Disease or Pulmonary/Critical Care physician. The physician shall be responsible for:
 - a) personally examining the patient and conferring with the patient and the patient’s treating physician;
 - b) reviewing the patient’s medical record to confirm that the tuberculosis is in an active, infectious, and communicable state;
 - c) finding current evidence that the patient has refused to take required tuberculosis medications and the patient desires to leave the hospital against medical advice;
 - d) concluding that the patient poses a present danger to himself/herself or others if the patient should leave the hospital against medical advice.
2. Once the criteria for detainment are met, the certifying physician must complete the **Emergency Certificate** including the date and time of the exam, sign the form, and place it in the patients’ medical record. Emergency certificate forms and instructions may be obtained from on line at the IC web page or from by the tuberculosis control section of the Public Health Unit and shall be maintained in the Infection Control Department and Administrative House Manager’s Office.
3. The Infectious Diseases physician and the attending physician shall

contact the state health officer through the nearest tuberculosis control Division of the Public Health Unit for purposes of coordinating the patient's transfer to a state tuberculosis treatment facility within the fifteen days covered by the emergency certificate.

4. Within seventy-two hours following the execution of the emergency certificate, there must be a follow up examination of the patient by a hospital staff physician, preferably the patient's attending physician. This physician must record his or her findings from the examination in the section provided in the emergency certificate. The information provided in this Section must state the date and hour of the follow-up examination and must be signed at that time by the physician.
5. If the follow-up examination confirms the initial findings of the certified physician the emergency certificate shall remain in full force and effect.
6. If after the follow-up examination, it is determined that circumstances have changed, that the patient is taking the required tuberculosis medications, and that the patient no longer poses a present threat to himself or herself and others, the emergency certificate shall expire upon the examining physician's signature attesting to this fact.
7. If no follow-up examination occurs within the seventy-two hours following the execution of the emergency certificate, the emergency certificate shall be deemed to have expired by operation of law.

Written: 4/98

Revised: 11/02, 11/04, 11/06, 10/08

STATE OF LOUISIANA
DEPARTMENT OF HEALTH AND HOSPITALS
OFFICE OF PUBLIC HEALTH
PHYSICIAN EMERGENCY CERTIFICATE
FOR TUBERCULOSIS

Attachment 3

For observation, diagnosis and treatment at a treatment facility for a period not to exceed 15 days. (See Louisiana Revised Statute 40:17 B and C on the reverse side of this form). The directives of this statute must be fulfilled in order for this certificate to be valid.

Name of Examining Physician	Examination Date	Examination Time
Address of Examining Physician		

PATIENT DATA

Name of Patient		Social Security Number	Patient Chart Number
Address of Patient			
Race	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Date of Birth	Birthplace
Marital Status <input type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> D <input type="checkbox"/> W <input type="checkbox"/> Sep		Military Status <input type="checkbox"/> Veteran <input type="checkbox"/> Non-Veteran	Religion
Name of Nearest Relative, Friend, or Guardian		Relationship	
Address		Telephone	

FINDINGS OF EXAMINATION

HISTORY OF PRESENT ILLNESS (REASONS FOR ADMISSION INCLUDING BEHAVIOR, ETC.) CURRENT MEDICATIONS, CURRENT COMPLIANCE. (HISTORY OF TREATMENT AND/OR NON-COMPLIANCE, ETC.)

PHYSICIAN FINDINGS

SUPPORTIVE DATA, LABORATORY, X-RAY RESULTS, INCLUDING BUT NOT LIMITED TO ACID FAST BACILLI, CULTURE, OR OTHER POSITIVE TO LABORATORY TEST.

I have personally examined the patient and reviewed the medical record, conferred with the patient and the patient's treating physician (if applicable) and I am/am not of the opinion that the above named person is in need of immediate tuberculosis treatment in a hospital facility because he/she has tuberculosis in an active, infectious and communicable state. He/she is (check appropriate boxes)

- | | |
|---|---|
| <input type="checkbox"/> Patient in hospital and refusing TB meds | <input type="checkbox"/> Presents danger to self and others |
| <input type="checkbox"/> Threatens to leave against medical advice. | <input type="checkbox"/> Compliant, poses no risk |

Signature of Examining Physician	LA Medical License Number	Date Signed	Time Signed
----------------------------------	---------------------------	-------------	-------------

- | | |
|---|---|
| <input type="checkbox"/> Initial Physician Certification | <input type="checkbox"/> Reviewing Physician Certification |
| Title <input type="checkbox"/> Infectious Disease Control Physician | <input type="checkbox"/> Hospital Staff Infectious Disease Control Physician Designee |
| <input type="checkbox"/> Pulmonary Disease Physician | TB 72 (8/97) |

TITLE 40 OF THE LOUISIANA REVISED STATUTES
SECTION 17

§17. Mandatory medical examination; confinement; when allowed; emergency certificate

- A. Neither the state health officer or his designee, nor the parish health officer or health unit shall subject any medical examination or confine him in any institution unless directed or authorized to do so by the judge of the parish in which the person is located, except when said person is infected or suspected of infection with smallpox, cholera, yellow fever or bubonic plague, or is infected with tuberculosis.
- B.
- (1) A person who is infected with tuberculosis in an active and communicable state, who is a patient in a hospital, and refuses treatment for tuberculosis against medical advice may be detained and held in a hospital for a period not to exceed fifteen days by an emergency certificate executed by the hospital's infectious disease control physician or pulmonary disease physician in accordance with the procedure set forth in this section.
 - (2) In such case, the hospital's infectious disease control physician or pulmonary disease physician and the patient's physician shall contact the same health officer through the nearest tuberculosis control unit or clinic of the office of public health for purposes of coordinating the patient's transfer to a state tuberculosis treatment facility pursuant to R.S. 40:31.24 within the fifteen days covered by the emergency certificate.
 - (3) If the patient violates in any way the emergency certificate issued pursuant to this Section, it shall be deemed to be a violation of the quarantine order and shall be subject to sanctions set forth in R.S. 40:6(B).
 - (4) Upon expiration of the emergency certificate, the patient shall be released from the hospital, unless a court order pursuant to R.S. 40:31.24 transferring the patient to a treatment facility has been obtained.
- C. The following procedure shall govern the preparation and issuance of any emergency certificate for the purpose of detaining and holding a patient pursuant to the provisions of this Section:
- (1) The hospital's infectious disease control physician or pulmonary disease physician, or any hospital staff physician authorized to act in the role of the infectious disease control physician for the hospital may execute the emergency certificate to detain and hold a person infected with active, infectious, and communicable tuberculosis. Thereafter, the following tasks shall be completed as soon as possible with regard to a person detained and held pursuant to an emergency certificate:
 - (a) The infectious disease control physician or pulmonary disease control physician must personally examine the patient and confer with the patient and the patient's treating physician.
 - (b) The patient's medical records must be reviewed by the infectious disease control physician or pulmonary disease physician to confirm that the tuberculosis is in an active, infectious, and communicable state.
 - (c) The infectious disease control physician or pulmonary disease control physician must find current evidence that the patient has refused to take required tuberculosis medications and the patient desires to leave the hospital against medical advice.
 - (d) The infectious disease control physician or pulmonary disease control physician must conclude that the patient poses a present danger to himself or herself and others if the patient should leave the hospital against medical advice.
 - (2) The emergency certificate must state the date and hour of examination by the infectious disease control physician or pulmonary disease control physician and must be signed by the physician at such time under penalty of perjury.
 - (3) Within a period of seventy-two hours following the execution of the emergency certificate by the infectious disease control physician or pulmonary disease control physician, there must be a follow-up examination of the patient by a hospital staff physician, who shall record his or her findings in the section provided for such findings in the emergency certificate. The information provided in this Section must also state the date and hour of the follow-up examination and must be signed at that time by the physician under the penalty of perjury. If the follow-up examination confirms the initial findings of the infectious disease control physician or pulmonary disease control physician, the emergency certificate shall remain in full force and effect. If after the examination it is determined that circumstances have changed, that the patient is taking the required tuberculosis medications, and that the patient no longer poses a present threat to himself or herself and others, the emergency certificate shall expire upon the examining physician's signature attesting to this fact. If no follow-up examination occurs within the seventy-two hours following execution of the emergency certificate, the emergency certificate shall be deemed to have expired by operation of the law.
 - (4) The state health officer and the tuberculosis control unit of the office of public health shall provide all licensed public and private hospitals with emergency certificate forms and instructions for the purposes of this Section.

Air Changes Per Hour and Time in Minutes Required for Removal Efficiencies of 90% of Airborne Contaminants	
Number of Air Changes per hour	Number of Minutes Required for a Removal efficiency of 90%
1	138
2	69
3	46
4	35
5	28
6	23
7	20
8	17
9	15
10	14
11	13
12	12
13	11
14	10
15	9
16	9
17	8
18	8
19	7
20	7
25	6
30	5
35	4
40	3
45	3
50	3



**Louisiana State University
Medical Center - Shreveport**

Employee Health Questionnaire

Date of Hire: ___ / ___ / ___ Department: _____
 Name: _____ Home Phone: _____
 Address: _____ Work Phone: _____
 City: _____ State: _____ Zip: _____ Sex: Male Female
 Date of Birth: ___ / ___ / ___ Social Security Number: _____ - _____ - _____
Month Day Year

Please check (✓) one →			—TO BE FILLED OUT BY NURSE— Documentation with Dates Required		DATE
	YES	NO	VACCINATIONS		
Are you allergic to any medicines?	<input type="checkbox"/>	<input type="checkbox"/>	DPT series completed		
Are you allergic to any foods?	<input type="checkbox"/>	<input type="checkbox"/>	Tetanus		
Are you allergic to latex gloves or balloons?	<input type="checkbox"/>	<input type="checkbox"/>	Polio Series Completed		
Do you have a chronic disease or take any medicines that cause your immune system to be weak?	<input type="checkbox"/>	<input type="checkbox"/>	Mumps		
Have you ever had tuberculosis (TB)?	<input type="checkbox"/>	<input type="checkbox"/>	Measles		
Have you ever had a positive TB skin test?	<input type="checkbox"/>	<input type="checkbox"/>	MRC		
Have you ever taken INH (TB medicine)?	<input type="checkbox"/>	<input type="checkbox"/>	MMR-1		
Have you ever had BCG (TB vaccine)?	<input type="checkbox"/>	<input type="checkbox"/>	MMR-2		
Have you had an unexplained weight loss recently?	<input type="checkbox"/>	<input type="checkbox"/>	Hepatitis B		
Are you currently having night sweats?	<input type="checkbox"/>	<input type="checkbox"/>	Hepatitis B		
Do you have a chronic cough - longer than 2 weeks?	<input type="checkbox"/>	<input type="checkbox"/>	Hepatitis B		
Do you have chest pain?	<input type="checkbox"/>	<input type="checkbox"/>			
Have you ever had a work-related injury or illness?	<input type="checkbox"/>	<input type="checkbox"/>			
If yes, what and when?					
Are there any aspects of your health that you think warrant special arrangements in order for you to perform your duties at LSUMC-S?	<input type="checkbox"/>	<input type="checkbox"/>	TO BE FILLED OUT BY NURSE Immunity by Blood Test		
DISEASE HISTORY			HBsAB Date <input type="checkbox"/> Pos <input type="checkbox"/> Neg		
Have you ever had chickenpox?	<input type="checkbox"/>	<input type="checkbox"/>	Varicella Titer Date <input type="checkbox"/> Pos <input type="checkbox"/> Neg		
Have you ever had mumps?	<input type="checkbox"/>	<input type="checkbox"/>	Rubella Titer Date <input type="checkbox"/> Pos <input type="checkbox"/> Neg		
Have you ever had Hepatitis A?	<input type="checkbox"/>	<input type="checkbox"/>	Other Date <input type="checkbox"/> Pos <input type="checkbox"/> Neg		
Have you ever had Hepatitis B?	<input type="checkbox"/>	<input type="checkbox"/> Date <input type="checkbox"/> Pos <input type="checkbox"/> Neg		
Do you have contact with human blood or body fluids in performance of your duties?	<input type="checkbox"/>	<input type="checkbox"/>	TB Mask Fit Test Date <input type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> N/A		
			Color Screening Test Date <input type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> N/A		

I certify that the answers I have given to all questions in this application are true to the best of my knowledge. I know that any misrepresentation herein may cause application to be rejected, my name removed from the eligible register and/or subject me to dismissal from state service.
 I consent to the release of information to my supervisors concerning my immunization status, my TB skin test status, and my Hepatitis B status.
 I authorize Occupational Health Clinic to release certain information to me personally over the telephone. I may call the clinic and request* (1) Dates of vaccinations (2) Due dates for booster doses; (3) TB skin test dates and results.
 I agree to supply my Social Security Number, date of birth, my address and/or telephone number for identification to obtain telephone information.

Date

Signature of Applicant

Occupational Health Nurse



LSU Hospital in Shreveport

Occupational / Employee Health Clinic

Name: _____

Social Security No.: _____

Department: _____

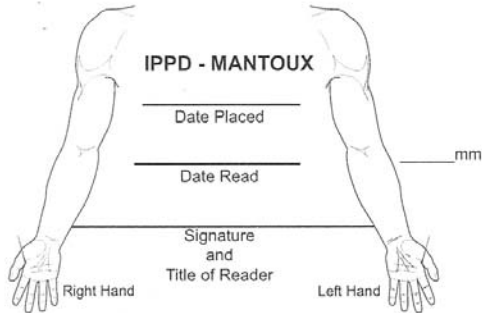
Supervisor / Department Head: _____

SHREVEPORT

TB SKIN TEST RECORD

Last TB Skin Test: Date _____ Result: _____ mm

Previously Positive: Date _____



MMR Complete: _____ Date _____

Tetanus / Diphtheria Booster: _____ Date _____

TB STATUS EVALUATION

Date: _____

- | | | |
|----------------------------|------------------------------|-----------------------------|
| 1. Unexplained weight loss | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Night sweats | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Chronic cough >2 weeks | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Chest pain | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

COMMENTS:

Employee Signature _____ Date _____

OHC Nurse Signature _____ Date _____

TB MASK FIT/CHECK

Date: _____ Passed _____ Failed _____ NA _____
 NOTE: Employees who experience a change in facial size or shape MUST return to the Occupational/Student Health Clinic for mask

HEPATITIS B STATUS

- No occupational exposure Signed Waiver
- Vaccine in progress Next date due: _____
- Completed Hep. B Vaccine Date: _____
- Positive Hep. B surface antibody titer. Date: _____
- Negative Hep. B. surface antibody titer after completing (2) I.M. series OHC physician appt. given _____ Date _____
- Evaluated by OHC Physician for persistent negative Hep. B surface antibody titer
- Positive Hep. B core antibody

VARICELLA (Chickenpox) STATUS

Titer Drawn Date: _____ Results: Positive Negative
 Negative Titer Offered (Varivax) Vaccine Date: _____
 Varivax Vaccine x (2) Completed Date: _____

MUMPS TITER

Titer Drawn Date: _____ Results Pos Neg

RUBEOLA TITER

Titer Drawn Date: _____ Results Pos Neg

RUBELLA TITER

Titer Drawn Date: _____ Results Pos Neg

COLOR VISION TEST

Date: _____ Results Passed Failed N/A

OFFSITE PLACEMENT AND/OR READING TB SKIN TEST

(Must have prior approval of Occupational/Student Health Clinic and provide the following documentation, legibly)

PPD-Mantoux Date Placed: _____ By: _____ Name _____ Title (R.N., L.P.N., etc.) _____ Place of Employment _____

Date read _____ Results: _____ mm By: _____ Name _____ Title (R.N., L.P.N., etc.) _____ Place of Employment _____

SUMMARY OF TUBERCULOSIS EVALUATION

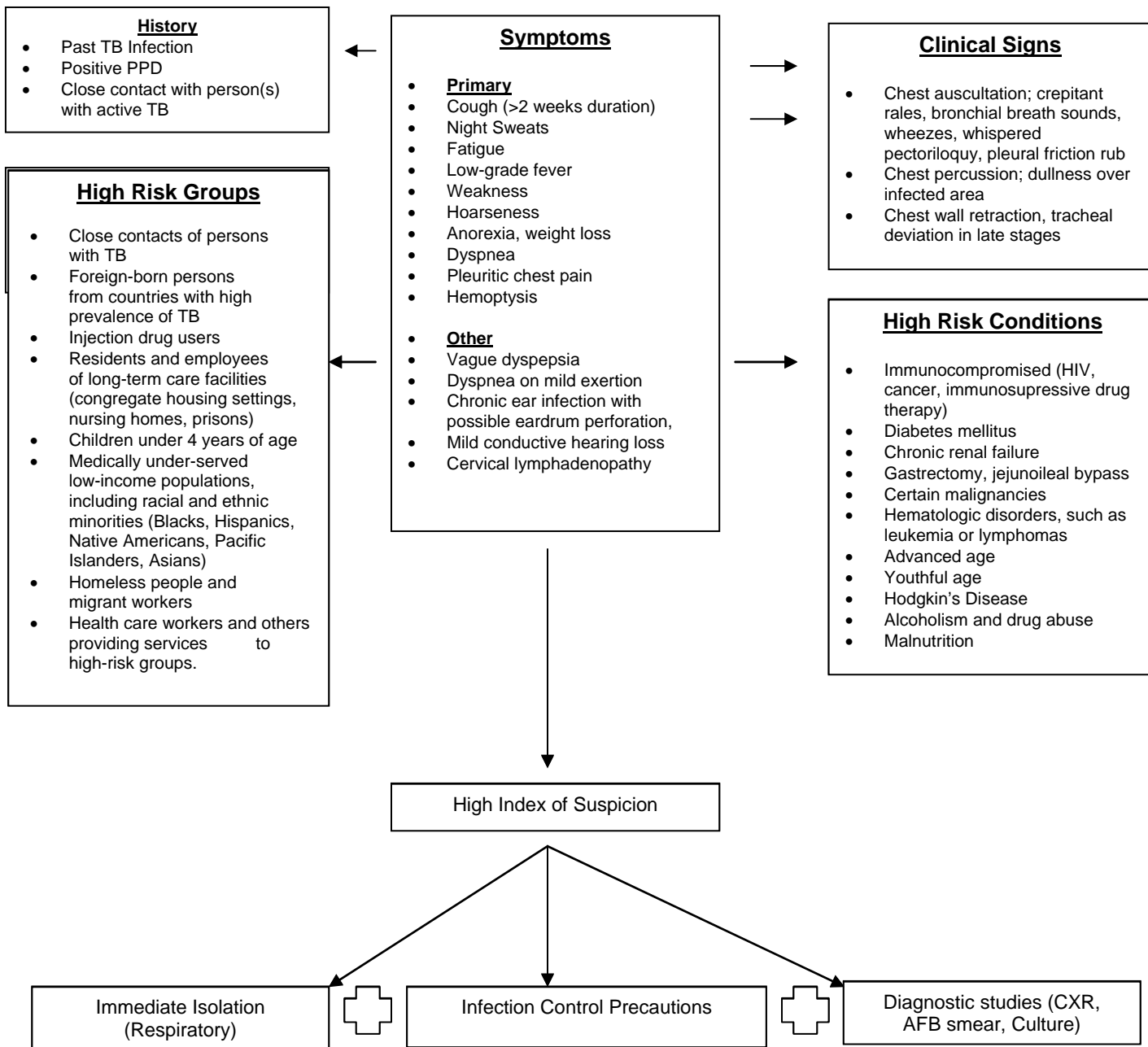


Figure 1
 Assessing the Patient at Risk for Active TB
 TB=Tuberculosis
 CXR – Chest Radiograph

Risk Assessment

Analyze purified protein derivative (PPD) test conversion data, number of TB cases and other risk factors by area and occupational group

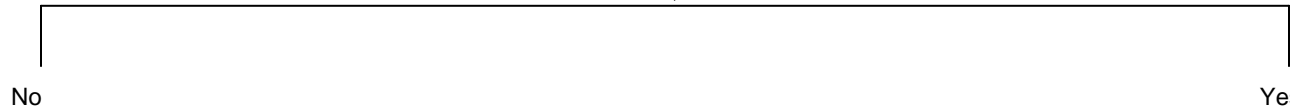
PPD test conversion rate significantly greater than areas without TB patients or than previous rate in same area

or

Cluster¹ of PPD test conversions

or

Evidence of patient -to-patient transmission



<6 TB patients per year in area

Low risk

- Repeat PPD test yearly
- Repeat risk assessment yearly
- Evaluate ventilation system annually and isolation room negative pressure daily while in use

≥ 6 TB patients per year in area

Intermediate risk²

- Repeat PPD test every 6 months
- Repeat risk assessment every 6 months
- Evaluate ventilation system every 6 months and isolation room negative pressure daily while in use

Yes

High Risk

- Initiate problem evaluation
- Repeat PPD test every 3 months
- Repeat risk assessment every 3 months
- Evaluate ventilation system every 3 months and isolation room negative pressure daily while in use
- Consider supplemental engineering measures.
- Maintain highest index of suspicion for potential TB patients.

¹ Cluster = Two or more PPD conversions in one area or a single occupational group that works in multiple areas over a 3-month period.

² Occurrence of drug-resistant TB in the facility or the community, or high prevalence of HIV infection among patients or workers in the facility may warrant a higher risk rating.