

BACKGROUND

Mycobacterium tuberculosis (TB) remains a public health concern, particularly in healthcare settings where exposure risk is elevated. Prompt identification and evaluation of individuals exposed to TB—known as contact investigations—is essential to prevent transmission, ensure early treatment, and protect both staff and patients. This project highlights the process, collaboration, and importance of TB contact investigations at University Medical Center (UMC) and across Southern Nevada.

PURPOSE

The purpose of this project is to increase awareness and understanding of how TB Contact Investigations are conducted in a healthcare setting, and why rapid response and thorough follow-up are crucial to infection control and community safety.

METHODS

Steps Performed during an Exposure Incident:

Identification of Index Case: Identify the patient with active TB and collect information on their symptoms, treatment, and site of disease.

Assign contact priorities: A public health process that ranks individuals exposed to an infectious tuberculosis (TB) case based on their risk of infection and progression to disease, using criteria like exposure duration, setting, and the contact's own health factors.

Exposure Assessment: Evaluate the exposure event to determine the risk to HCWs based on factors like the type of TB, patient activities, and the duration/intensity of exposure.

Post-Exposure Evaluation for HCWs

1. Repeat TB Testing:

Perform a TST or IGRA immediately (baseline, if exposure is identified early) and 8-10 weeks post exposure.

2. Chest X-ray

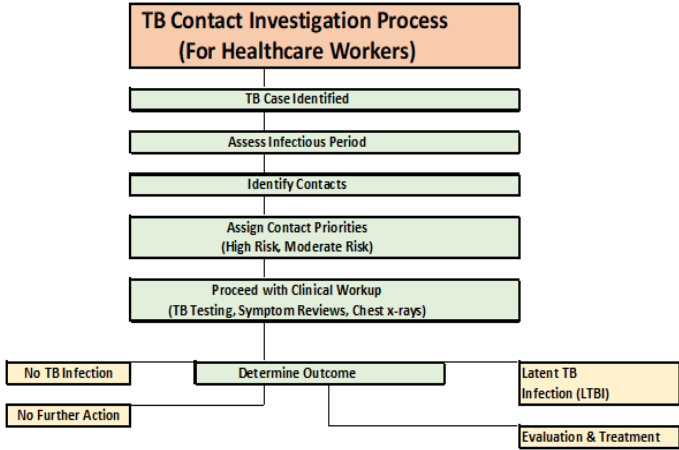
3. Medical Evaluation:

HCWs with positive test results or symptoms consistent with TB disease will be instructed to seek medical evaluation.

4. LTBI Treatment:

Exposed HCWs with a positive TB test result and a normal chest X-ray are usually treated for latent TB infection (LTBI) to prevent progression to active disease.

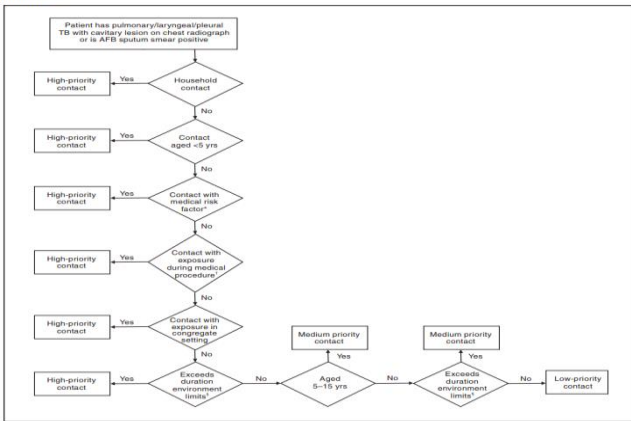
TB CONTACT INVESTIGATION



Contact Assignment and Risk-Based Prioritization

The figure below demonstrates the contact assignment process. Once the healthcare worker has been assigned a priority (high, moderate, low), the facilities will then use the data collected. To determine which contacts should be included in the clinical workup.

FIGURE 2. Prioritization of contacts exposed to persons with acid-fast bacilli (AFB) sputum smear-positive or cavitary tuberculosis (TB) cases



* Human immunodeficiency virus or other medical risk factor.

† Bronchoscopy, sputum induction, or autopsy.

‡ Exposure exceeds duration/environment limits per unit time established by the health department for high-priority contacts.

§ Exposure exceeds duration/environment limits per unit time established by the health department for medium-priority contacts.

RESULTS

In 2024, UMC Hospital's Employee Health and Infection Prevention team successfully conducted seven TB exposure investigations involving a total of 89 potentially exposed healthcare workers at UMC Hospital. These investigations followed robust, multi-phase protocols, which began with the systematic identification of direct caregivers and proceeded with priority-based contact tracing and comprehensive participant workups. The clinical workup resulted in zero TB conversions for 2024. This outcome strongly underscores the efficacy of our rapid and comprehensive protocols in mitigating potential risks of disease transmission following exposure.

CONCLUSIONS

TB Contact Investigations are the cornerstone of a robust infection control program, serving as a critical line of defense within our healthcare system. Through these investigations, we achieve the early detection and effective treatment of LTBI, thereby minimizing transmission risk and significantly enhancing staff knowledge of TB protocols. A strong and proactive Employee Health Program is not merely a component of this process; it is the driving force behind the rapid identification of exposures, coordinated response efforts, and comprehensive staff education. Ultimately, these disciplined and compassionate efforts affirm our unwavering commitment to the safety of our patients and staff, exemplifying UMC's vital leadership in Clark County's community health infrastructure through transparency, collaboration, and constant vigilance.

REFERENCES

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