

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

# Interventions for the Diagnosis of Tuberculosis: Clinical Effectiveness and Guidelines

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## Research Questions

1. What is the clinical effectiveness of interventions used for the diagnosis of tuberculosis?
2. What are the evidence-based guidelines regarding the diagnosis of tuberculosis?

## Key Findings

One health technology assessment and fourteen systematic reviews (twelve with meta-analysis) were identified regarding the clinical effectiveness of interventions used to diagnose tuberculosis. In addition, seven evidence-based guidelines were identified regarding the diagnosis of tuberculosis.

## Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE All (1946– ) via Ovid, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were diagnosis, thoracic radiography, x-ray computed tomography, interferon-gamma release tests, nucleic acid amplification techniques, skin tests, sputum cultures, rapid diagnostic tests and tuberculosis. Search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, or network meta-analyses, and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 01, 2014 and June 25, 2019. Internet links were provided, where available.

## Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

<b>Population</b>	Any individual suspected of having tuberculosis
<b>Intervention</b>	Any intervention used to diagnose tuberculosis
<b>Comparator</b>	Q1: Any other intervention used to diagnose tuberculosis Q2: No comparator
<b>Outcomes</b>	Q1: Clinical effectiveness, safety Q2: Evidence-based guidelines
<b>Study Designs</b>	Health technology assessments, systematic reviews, meta-analyses, evidence-based guidelines

## Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by evidence-based guidelines.

One health technology assessment and fourteen systematic reviews (twelve with meta-analysis) were identified regarding the clinical effectiveness of interventions used to diagnose tuberculosis. In addition, seven evidence-based guidelines were identified regarding the diagnosis of tuberculosis.

Additional references of potential interest are provided in the appendix.

### Health Technology Assessments

1. Auguste P, Tsertsvadze A, Pink J, et al. Accurate diagnosis of latent tuberculosis in children, people who are immunocompromised or at risk from immunosuppression and recent arrivals from countries with a high incidence of tuberculosis: systematic review and economic evaluation. *Health Technol Assess*. 2016;20(38).  
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### Systematic Reviews and Meta-analyses

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### Subpopulation – Children

9. Ios V, Cordel H, Bonnet M. Alternative sputum collection methods for diagnosis of childhood intrathoracic tuberculosis: a systematic literature review. *Arch Dis Child*. 2019 Jul;104(7):629-635.  
[PubMed: PM30127061](#)
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[PubMed: PM31192175](#)

### Subpopulation – Immunocompromised Patients

11. Myint TM, Rogerson TE, Noble K, Craig JC, Webster AC. Tests for latent tuberculosis in candidates for solid organ transplantation: a systematic review and meta-analysis. *Clin Transplant*. 2019 Jun 21:e13643.  
[PubMed: PM31225918](#)
12. Overton K, Varma R, Post JJ. Comparison of interferon-gamma release assays and the tuberculin skin test for diagnosis of tuberculosis in human immunodeficiency virus: a systematic review. *Tuberc Respir Dis (Seoul)*. 2018 Jan;81(1):59-72.  
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## Guidelines and Recommendations

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*See: Recommendations 1.2 to 1.4*
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*See: Chapters 3 and 4*
22. World Health Organization. Guidance for national tuberculosis programmes on the management of tuberculosis in children. Second edition. Geneva (CH): WHO; 2014: [https://apps.who.int/iris/bitstream/handle/10665/112360/9789241548748\\_eng.pdf;jsessionid=3EFEF6919A663F50F1B886AF2BF02FA3?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/112360/9789241548748_eng.pdf;jsessionid=3EFEF6919A663F50F1B886AF2BF02FA3?sequence=1). Accessed 2019 Jul 02.  
*See: Sections 3, 6.3, and 7.3*

## Appendix — Further Information

### Systematic Reviews and Meta-analyses

#### *Alternative Outcomes*

23. Mhimbira FA, Cuevas LE, Dacombe R, Mkopi A, Sinclair D. Interventions to increase tuberculosis case detection at primary healthcare or community-level services. *Cochrane Database Syst Rev*. 2017 11 28;11:CD011432.  
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### Guidelines and Recommendations – Methodology Not Specified

24. Subramanian AK, Theodoropoulos NM, Infectious Diseases Community of Practice of the American Society of Transplantation. Mycobacterium tuberculosis infections in solid organ transplantation: guidelines from the infectious diseases community of practice of the American Society of Transplantation. *Clin Transplant*. 2019 Feb 28:e13513.  
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### Review Articles

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*See: Sections 3 to 7*