

# Research to improve the detection and treatment of latent tuberculosis infection: diagnostics

<b>Submission date</b> 21/07/2021	<b>Recruitment status</b> Recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 28/07/2021	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 30/07/2024	<b>Condition category</b> Infections and Infestations	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English Summary

### Background and study aims

People who have been infected with the bacteria that cause tuberculosis (TB) but who do not have any symptoms and are not yet ill are said to have latent TB. Although latent TB does not make people unwell, the bacteria could become 'active' at any time, causing them to become ill with TB. Once ill they become symptomatic and contagious and can also pass TB on to other people. Latent TB can be treated to help prevent active TB from developing. The treatment for latent TB is usually shorter than treatment for active TB and uses fewer drugs. The RID-TB:Dx study will investigate whether a new latent TB skin test, called C-Tb, can be offered as an alternative to the standard interferon gamma release assay (IGRA) blood test to diagnose LTBI.

### Who can participate?

Patients aged 16-65 years attending a RID-TB clinic who are eligible for latent TB infection testing according to UK guidance

### What does the study involve?

Participants will be randomly allocated 2:1 to either the intervention group (C-Tb skin test) or the control group (IGRA blood test). Although the study is a randomised controlled trial (RCT), enrolled participants will have an IGRA test if they would prefer not to have the C-Tb test, or if they are not eligible to receive the C-Tb test.

The C-Tb skin test involves an injection under the skin of the forearm, which will become raised and red if the person has been exposed to TB bacteria. This reaction will be checked at the clinic after 2-3 days in order to make a diagnosis. A small pilot study will explore whether it is possible for the C-Tb skin test to be read remotely, using a supported participant-led self C-Tb read. If these self-reads are as accurate as the skin test being read in the clinic, then the option to have a remote appointment, rather than attending the clinic in person, will be offered for the remainder of the study.

We will also look at how people feel about LTBI, including how they feel about the C-Tb test and whether they decide to receive the test if it is offered to them, in an optional behavioural sub-study. Some people may also be invited to a short (15-20 minute) recorded interview, to talk in more depth about their views on the LTBI tests.

We are also analysing how much it costs people to come to the clinic for the appointments alongside other health service use data, using an optional health economics sub-study that will allow us to see if the C-Tb test offers value for money for the NHS. Any participants who are found to have a positive result for latent TB, either from the C-Tb skin test or the IGRA blood test, will be offered treatment as per their clinic's local policy. Routine blood tests will be carried out as per local guidelines.

Active study involvement is up to Week 4 post-randomisation. Follow up information will then be collected 3 months after enrolment; this may be by telephone, a clinic visit or review of clinic notes and registries.

What are the possible benefits and risks of participating?

There are no direct benefits to participants but they will help improve diagnosis and care for other people who may be at risk from latent TB. Participants allocated to the C-Tb group will be asked to come to the clinic once more time than they would just for the standard of care IGRA blood test. There is a risk of mild, localised side effects from the new C-Tb test. These include swelling, rash, itching and discomfort. People may also experience bruising, pain and discomfort at the injection site for the IGRA blood test.

A £15 voucher will be given to all randomised participants to thank them for their time. Additional vouchers will be given to participants who take complete the C-Tb self-read pilot study (£15) and the behavioural interviews (£5).

Where is the study run from?  
University College London (UK)

When is the study starting and how long is it expected to run for?  
October 2018 to December 2025

Who is funding the study?  
National Institute for Health Research (NIHR) (UK)

Who is the main contact?  
RID-TB Trial Manager  
mrcctu.rid-tb@ucl.ac.uk

### **Study website**

[/www.ucl.ac.uk/global-health/research/z-research/rid-tb](https://www.ucl.ac.uk/global-health/research/z-research/rid-tb) <https://www.mrcctu.ucl.ac.uk/studies/all-studies/r/rid-tbdx/>

## **Contact information**

**Type(s)**  
Public

**Contact name**  
Mrs Ellen Owen-Powell

**Contact details**  
MRC Clinical Trials Unit at UCL  
Institute of Clinical Trials & Methodology

90 High Holborn 2nd Floor  
London  
United Kingdom  
WC1V 6LJ  
+44 (0)20 7670-4619  
mrcctu.rid-tb@ucl.ac.uk

## Additional identifiers

**EudraCT/CTIS number**  
2019-002592-34

**IRAS number**  
269485

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
RID-TB:Dx, IRAS 269485, CPMS 43562

## Study information

**Scientific Title**  
A randomised controlled trial to evaluate a RD-1 based C-Tb skin test diagnostic strategy for detection of latent TB infection and initiation of TB preventive treatment in the UK

**Acronym**  
RID-TB:Dx

**Study hypothesis**  
Current study hypothesis:  
It is acceptable and feasible to offer C-Tb skin test diagnostic strategy as an alternative to IGRA for the management of LTBI in the UK?

Previous study hypothesis:  
Using the C-Tb skin test for the management of latent TB infection (LTBI) will be as good as (non-inferior to) the current standard-of-care based on Interferon Gamma Release Assay (IGRA) testing.

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**  
Approved 03/01/2020, London Harrow Research Ethics Committee (Level 3, Block B, Whitefriars, Lewins Mead, Bristol, BS1 2NT, UK; +44 (0)207 104 8306; nrescommittee.london-harrow@nhs.net), ref: 19/LO/1624

**Study design**  
A multi-centre parallel 2-arm open-label randomised controlled trial

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

Community, GP practice, Hospital

**Study type(s)**

Diagnostic, Prevention

**Participant information sheet**

Not available in web format, please use contact details to request a participant information sheet

**Condition**

Latent tuberculosis infection (LTBI)

**Interventions**

Current interventions as of 30/07/2024:

Participants will be randomised 2:1 into either the intervention arm (C-Tb skin test) or control arm (standard of care IGRA blood test)

Method of randomisation: minimisation with a random element, over a number of clinically important factors (including centre and age group).

The C-Tb skin test will be administered at baseline to participants in the intervention arm, who will be asked to return to the clinic 2-3 days later to have the result (induration) read.

Both arms will have the standard of care IGRA blood test to test for latent TB infection, results of which will be available 2-4 weeks after baseline. Routine blood tests will be done as per standard of care.

Participants testing positive for latent TB infection will be offered treatment as per standard of care (not part of the trial protocol).

Behavioural questionnaires relating to testing and beliefs in medicines will be completed by selected participants. Additional consent will also be sought for the completion of a health economics questionnaire and blood sample storage for future tests, including genetics.

Outcome data relating to the primary and secondary outcomes will be collected at week 24.

---

**Previous interventions:**

Participants will be randomised into either the control arm (standard of care IGRA blood test) or intervention arm (C-Tb skin test plus IGRA blood test).

Method of randomisation: minimisation with a random element, over a number of clinically important factors (including centre and age group).

The C-Tb skin test will be administered at baseline to participants in the intervention arm, who will be asked to return to the clinic 2-3 days later to have the result (induration) read.

Both arms will have the standard of care IGRA blood test to test for latent TB infection, results of which will be available 2-4 weeks after baseline. Routine blood tests will be done as per standard of care.

Participants testing positive for latent TB infection will be offered treatment as per standard of care (not part of the trial protocol).

Behavioural questionnaires relating to testing and beliefs in medicines will be completed by selected participants. Additional consent will also be sought for the completion of a health economics questionnaire and blood sample storage for future tests, including genetics. Outcome data relating to the primary and secondary outcomes will be collected at week 24.

## **Intervention Type**

Other

## **Primary outcome measure**

Current primary outcome measure as of 30/07/2024:

Initiation of LTBI treatment within 12 weeks (following a positive result), as determined by confirmation of LTBI treatment medications issued by pharmacy.

---

Previous primary outcome measure:

Initiation of LTBI treatment (within a defined  $24 \pm 4$  week follow-up period) based on a positive result of the randomised test. The treatment initiation is based on pharmacy records that confirm the issuance of medications for LTBI treatment within a defined  $24 \pm 4$  week follow-up period.

## **Secondary outcome measures**

Current secondary outcome measures as of 30/07/2024:

1. Related to patient and process outcomes (impact) on the LTBI pathway process outcomes:

- Acceptance of C-Tb testing
- Failure to have C-Tb test read within 2-3 days among participants receiving C-Tb test
- Positive test result among participants receiving the randomised test
- Initiating treatment among participants receiving C-Tb test
- Initiating treatment among participants testing C-Tb positive
- Acceptance of LTBI treatment among participants, determined by verbal agreements.
- Losses to follow up (default rate) between diagnosis with LTBI and starting treatment
- Time from testing to starting preventative therapy

2. Safety

- Local reactions
- Systemic reactions
- i. Serious adverse events at least possibly related to the diagnostic test received
- ii. Pre-defined adverse events

---

Previous secondary outcome measures:

1. Safety:

1.1. Local and systemic reactions in participants randomised to the C-Tb test assessed by clinicians using a standard checklist at follow-up visits

2. Process outcomes related to impact on the LTBI pathway:

2.1. For participants randomised to C-Tb, failure to return for C Tb reading within 2-3 days as recommended by the manufacturer will be documented on the CRF at the scheduled follow-up visit for reading C-Tb results

2.2. Acceptance of LTBI treatment among participants with a positive result of the randomised test, as determined by verbal agreement, will be recorded on the CRF at each follow-up visit

2.3. Initiation of LTBI treatment among those with a positive result of the randomised test will be assessed based on confirmation of LTBI treatment medications issued by the pharmacy within a defined 24±4 week follow-up period

2.4. Losses to follow-up between diagnosis with LTBI and starting LTBI treatment. Participants will be deemed lost to follow-up if they fail to attend any of the scheduled visits/appointments and are still not contactable at the end of the diagnostic follow-up period (Week 24 (±4 weeks)). The information will be documented on the CRF at each follow-up visit and also collected using patient records.

2.5. Time (days) from testing to starting preventative therapy measured based on the date of starting preventive treatment and testing recorded on the CRF

2.6. Completion of LTBI treatment within a 24 ± 4 week period from starting treatment is collected using patient records

**Overall study start date**

01/10/2018

**Overall study end date**

31/12/2025

## Eligibility

**Participant inclusion criteria**

Current inclusion criteria as of 30/07/2024:

1. Aged 16 – 65 years
2. Eligible for LTBI testing with IGRA and treatment for LTBI according to UK guidance
3. Willing and able to provide written informed consent
4. Willing and able to comply with the trial

---

Previous inclusion criteria:

1. Aged 16 – 65 years
2. Eligible for LTBI testing with IGRA and treatment for LTBI according to UK guidance

3. Willing and able to provide written informed consent
4. Willing and able to comply with the trial, including the randomised test(s) and adherence to follow up visits

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

16 Years

**Upper age limit**

65 Years

**Sex**

Both

**Target number of participants**

400

**Participant exclusion criteria**

Current exclusion criteria as of 30/07/2024:

1. Displaying any symptoms or signs of active TB disease

---

Previous exclusion criteria:

1. Allergy to C-Tb product or any of its constituents
2. Displaying any symptoms or signs of active TB disease
  - 2.1. Unexplained fever
  - 2.2. Cough (more than 3 weeks)
  - 2.3. Haemoptysis
  - 2.4. Blood in sputum
  - 2.5. Unexplained weight loss
  - 2.6. Drenching night sweats
  - 2.7. Lymph node swelling
3. Women who are breastfeeding, pregnant or plan to become pregnant during the study
4. Women of childbearing potential not using contraception

**Recruitment start date**

10/08/2021

**Recruitment end date**

30/09/2025

**Locations**

**Countries of recruitment**

England

United Kingdom

**Study participating centre****Whittington Hospital**

Magdala Avenue

London

United Kingdom

N19 5NF

**Study participating centre****Whipps Cross University Hospital**

Whipps Cross Road

Leytonstone

London

United Kingdom

E11 1NR

**Study participating centre****Mile End Hospital**

Bancroft Road

Bethnal Green

London

United Kingdom

N1 4DG

**Study participating centre****Royal Free Hospital**

Pond Street

London

United Kingdom

NW3 2QG

**Study participating centre****Newham Transitional Practice**

30 Church Road

Manor Park



London  
United Kingdom  
E12 6AQ

**Study participating centre**  
**The Shrewsbury Centre (Newham Chest Clinic)**  
Shrewsbury Road  
Forest Gate  
London  
United Kingdom  
E7 8QP

## Sponsor information

**Organisation**  
University College London

**Sponsor details**  
Gower Street  
London  
England  
United Kingdom  
WC1E 6BT  
+44 (0)20 7670 4811  
m.parmar@ucl.ac.uk

**Sponsor type**  
University/education

**Website**  
<http://www.ucl.ac.uk/>

**ROR**  
<https://ror.org/02jx3x895>

## Funder(s)

**Funder type**  
Government

**Funder Name**  
National Institute for Health Research

**Alternative Name(s)**

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

United Kingdom

## Results and Publications

**Publication and dissemination plan**

It is anticipated that a number of opportunities will arise for publication during the course of and following completion of the RID TB:Dx trial. Publications include papers (including abstracts) for presentation at national and international meetings, as well as the preparation of manuscripts for peer-reviewed publication. Dissemination of results will be planned in collaboration with TB Alert. The protocol paper has been submitted for publication.

**Intention to publish date**

30/12/2026

**Individual participant data (IPD) sharing plan**

The trial data are held at the MRC Clinical Trials Unit at UCL which encourages optimal use of data by employing a controlled access approach to data sharing. Requests for data can be made via application to the Programme Steering Committee. Further information on both the approach and the application process can be found here: [http://www.ctu.mrc.ac.uk/our\\_research/datasharing/](http://www.ctu.mrc.ac.uk/our_research/datasharing/)

**IPD sharing plan summary**

Available on request

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Protocol article</a>		30/12/2021	30/07/2024	Yes	No