# London Consortium of Occupational Health Providers

## LCOHPS Group Audit Project:
## Compliance with NICE TB guidance
## April 2012

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# LCOHPS group audit of implementation of NICE TB guidance 2011 CG117

## Executive summary

Background
Healthcare workers (HCW) are at risk of both contracting and transmitting TB. Guidance on the screening of new HCWs has been issued by the Department of Health (2007) based on NICE guidance on TB (2006). The NICE guidance was updated in 2011. There seems to be a variation in TB clearance practice.

30 NHS Trust Occupational Health services participated in this group audit of the implementation of NICE TB guidance 2011 and measuring practice in London and surrounding area.

Results
Thirty member organisations returned the questionnaire (response rate 71%). 95% of respondents screen for TB. 18% only use Mantoux test while 31% use IGRA only and 43% use dual strategy. 62% of participants undertake symptom enquiry on non-clinical staff. 93% offer BCG as per guidance. 68% apply the same standards to agency and locum workers. Less than 50% use an annual symptom reminder.
On practice measures; 100% reported the purpose of their protocol was to protect patients. None of the participants removed a staff member with latent TB from work. 33% offer Mantoux test to IGRA negative applicants before offering BCG. 30% did not accept results of screening from abroad. Mode of prolonged stay was 3 months (range 2 weeks to 5 years).

Discussion
This audit confirms that the guidance has been open to interpretation. Good compliance with essential criteria such as performing screening and risk assessment was demonstrated. However a huge variation of practice is, observed in timing, method and order of screening.

Recommendations are made about the involvement of occupational health in the development of the guidance and also in grouping together the recommendations that apply to occupational health within the guidance.

## Background

A recent review article from the Health Protection Agency in the BMJ ( Reference 1) reports that the UK incidence of tuberculosis (TB) is higher that of other western countries, except Spain and Portugal, and is rising . This review states that the number of reported cases are now at the highest level since the 1970s, with most cases ( 73%

in 2009) occurring in people born outside the UK. A higher proportion of migrants to the UK come from countries of high TB origin i.e. Indian subcontinent and Sub-Saharan Africa compared with other European countries. 2-10% of cases of TB in the UK occur in people who have HIV co-infection.

Whilst guidance recommends screening of all new entrants to the UK, the HPA reports that in a survey of all 112 Primary Care Trusts, nearly half reported that they did not have a migrant screening programme.

The National Institute of Clinical Excellence (NICE) has produced guidance on Tuberculosis in 2006 and in 2011( References 2 and 3). This includes clinical diagnosis and management as well as measures for the prevention and control of TB. Some of its recommendations apply specifically to healthcare workers, who are both at risk of contracting TB from patients and also transmitting TB to patients.

It is the role of Occupational Health to contribute to reducing the risks associated with healthcare workers. Guidance on screening new healthcare workers for TB has been issued by the Department of Health (Reference 4) in March 2007 based on the NICE tuberculosis CG33 2006.

The NICE guidance on TB 2011 CG117 has given new guidance in relation to healthcare workers as follows:

- Offer an interferon-gamma test to new NHS employees who have recently arrived from high-incidence countries or who have had contact with patients in settings where TB is highly prevalent.
- Offer a Mantoux test to new NHS employees who will be in contact with patients or clinical materials if the employees:
    - are not new entrants from high-incidence countries
    - and have not had BCG vaccination (for example, they are without scar, other documentation or reliable history).
- If the Mantoux test is negative, refer to the Green Book for BCG immunisation guidance. If the Mantoux test is positive, offer an interferon-gamma test
- Healthcare workers who are immunocompromised should be screened in the same way as other people who are immunocompromised:
    - For people with HIV and CD4 counts less than 200 cells/mm3, offer an interferon-gamma test and a concurrent Mantoux test. If either test is positive perform a clinical assessment to exclude active TB and consider treating latent TB infection.
    - For people with HIV and CD4 counts of 200–500 cells/mm3, offer an interferon-gamma test alone or an interferon-gamma test with a concurrent Mantoux test. If either test is positive perform a clinical assessment to exclude active TB and consider treating latent TB infection.

- For other people who are immunocompromised, offer an interferon-gamma test alone or an interferon-gamma test with a concurrent Mantoux test. If either test is positive perform a clinical assessment to exclude active TB and consider treating latent TB

The NICE TB guidance is complicated which makes the implementation of the recommendations occasionally open to interpretation. On the other hand local considerations, such control of infection policies and availability of a particular test will have impact on TB clearance guidance. It is, therefore, expected to see variation in practice in respect to TB screening and immunity assessment amongst occupational health departments providing service to the NHS.

A TB special interest group was set up within London Consortium of Occupational Health Practitioners (LCOHPS) for the purpose of exploring the issues in TB immunity and immunisation within Occupational Health. This group quickly became aware of the wide variation of practice of screening for TB within Occupational Health Services, despite national guidance.

LCOHPS is keen to develop a London wide healthcare worker infectious disease immunity and immunisation 'passport' that can be transferrable between NHS Trusts in London without the repetition of unnecessary tests. Prior to developing this, information is needed on the implementation of national guidance in Trust OH policies. TB guidance is the most complicated, and from sharing detail of policy and practice in the special interest group was the area with the most difficulty of implementation. It was therefore chosen for the first group audit.

## Aims

- To audit implementation of NICE TB Guidance 2011 CG117 by NHS Trusts within LCOHPS
- To audit some other areas of practice in respect of TB immunity and immunisation of healthcare workers to measure the variation in practice

## Methodology

NICE TB guidance CG117 (2011 edition) was selected as the standard. An audit tool was developed enquiring about 16 criteria chosen from the NICE CG117. Wherever necessary, participants were given the opportunity to comment in free text box.
To clarify the actual practice in areas that the NICE CG117 did not offer prescriptive guidance, additional questions were added to the tool which is referred to as non-audit component.
( see Appendix 1- audit tool and Appendix 2 – NICE CG117 standards that apply to Occupational Health).

The audit tool was piloted by four sites to ensure it was user friendly.

After finalising the tool, the audit was conducted using the Surveymonkey website. An e-mail containing the link to the audit tool was sent to the LCOHP mailing list, with a request for one reply for each Occupational Health Service ( OHS) was requested within a two week period in March 2012. OHS that had not replied within this period were sent an additional e mail reminder and given a further week to complete the tool.

The percentage of criteria that were consistent with NICE CG117 were calculated as collective compliance for each participant. For each criteria, the percentage of participants whose practice were consistent with NICE CG117 was calculated. Similarly for each question in the non-audit component, percentage of answers were calculated.

*Ethical approval*
Participation was voluntary and the results were coded and anonymised. As a clinic audit without recognisable personal data, ethical approval was deemed unnecessary.

## Results

**Response rate: 73%**
Out of 41 LCOHP members, 30 returned the completed questionnaire answering the section on NICE CG117 standards. 25 also completed the additional questions that clarified practice.

**Screening for TB and method used**
All participants except one screened for TB, either at pre-commencement or on the day of commencement.

**Table 1**

| When do you screen for TB/health check? % n=30 | |
|---|---|
| **Post job offer - Pre commencement** | 83.3% |
| **Post commencement (including on the start day)** | 73.3% |
| **Don't do any screening** | 3.3% |

Only half of the participants screen all staff whilst 93% screen staff who have contact with patients and 83% screen staff who have contact with clinical specimens.

**Table 2**

| Which group of staff do you ask about TB symptoms? % n=27 | |
|---|---|
| **Staff who have contact with patients** | 92.6% |
| **Staff who have contact with clinical specimens** | 81.5% |

| | |
|---|---|
| **Staff who will not have contact with patients or clinical specimens** | 63.0% |

All of those who screen, use symptom enquiry and documentary evidence/ BCG scar check.

**Table 3**

| **Method of screening-Symptom Enquiry % n=30** | |
|---|---|
| **Post job offer - Pre commencement** | 80.0% |
| **Post commencement (including on the start day)** | 50.0% |
| **Don't use** | 3.3% |

**Table 4**

| **Method of screening - Documentary evidence*/scar check (*Documentary evidence of TB skin testing, interferon-gamma testing, previous BCG inoculation and/or BCG scar check by an occupational health professional) % n=30** | |
|---|---|
| **Post job offer - Pre commencement** | **63.3%** |
| **Post commencement (including on the start day)** | **73.3%** |
| **Don't use** | **3.3%** |

Half of the participants use IGRA alone or along with Mantoux test. On the other hand, 83% use Mantoux test alone or along with IGRA. 80% of participants use chest X rays in screening.

**Table 5**

| **2d. IGRA (Interferon Gamma Release Assay) % n=30** | |
|---|---|
| **Post job offer - Pre commencement** | **23.3%** |
| **Post commencement (including on the start day)** | **43.3%** |
| **Don't use** | **50.0%** |

**Table 6**

| **2c. Mantoux % n=30** | |
|---|---|
| **Post job offer - Pre commencement** | **43.3%** |
| **Post commencement (including on the start day)** | **70.0%** |
| **Don't use** | **16.7%** |

**Table 7**

| **Method of screening - CXR % n=26** | |
|---|---|
| **Post job offer - Pre commencement** | **46.2%** |
| **Post commencement (including on the start day)** | **57.7%** |
| **Don't use** | **23.1%** |

If the applicant declared symptoms suggestive of TB 90% of applicants either arrange for medical assessment or refer to chest clinic.

**Table 8**

| What do you do if the applicants declare symptoms of TB? (Choose more than one option if appropriate) % n=27 | |
|---|---|
| **Medical examination by OH Nurse** | 44.4% |
| **Medical examination by OH Physician** | 55.6% |
| **CXR** | 85.2% |

For applicants from endemic areas for TB, the audit identified 21 different processes. Although they can be grouped into 3 main groups based on the starting test i.e. chest X ray, IGRA or Mantoux.

For applicants from low incidence areas for TB, there are 14 different processes most of which rely on the Mantoux test.

### BCG immunisation and refusal

Ninety six percent of the participants offer BCG to Mantoux or IGRA negative applicants, of which in 96% an HIV risk assessment is undertaken prior to administering BCG.

**Table 9**

| Do you offer BCG to staff who are Mantoux and/or IGRA negative? % n=27 | |
|---|---|
| **Yes** | **96.3%** |
| **No** | **3.7%** |

**Table 10**

| In Mantoux/IGRA negative cases do you perform HIV risk assessment prior to giving BCG? % n=26 | |
|---|---|
| **Yes** | **96.2%** |
| **No** | **3.8%** |

If the applicant declines BCG, 63% offer simultaneous oral and written advice regarding the risk.

**Table 11**

| If a prospective or current healthcare worker who is Mantoux negative (less than 6mm) and/or IGRA negative declines BCG vaccination, what do you do? (Choose more than one option if appropriate) % n=27 | |
|---|---|
| **Explain the risks orally** | 96.3% |
| **Supplementary written advice** | 70.4% |

If the applicant declines BCG, 87% of participants undertake an individual risk assessment whilst 7% impose a blanket ban on working in areas where there is risk of exposure to TB.

**Table 12**

| If the person declines BCG vaccination despite OH advice, what do you do? % n=27 | |
|---|---|
| Blanket ban to work in areas that there is a risk of exposure to TB | 7.4% |
| Individual risk assessment based on which they may be allowed to work in areas where there is a risk of exposure to TB | 88.9% |
| Other, please specify | 18.5% |

## HIV positive and immunosuppressed

In case of HIV positive or immunocompromised applicants the implementation of NICE guidance is poor. Just under half the participants do not screen HIV positive and immunosuppressed applicants any differently. From the free text comments most participants that do not necessarily follow the NICE CG117 in fact seek advice from the treating physician or chest clinic.

**Table 13**

| For employees with positive HIV and CD4 counts less than 200 cells/mm3, what tests do you use? (Choose more than one option if appropriate) % n=27 | |
|---|---|
| Mantoux test | 11.1% |
| IGRA | 40.7% |
| None, unless the employee fulfils other criteria for IGRA/Mantoux test | 44.4% |
| Other, please specify | 37.0% |

**Table 14**

| For employees with positive HIV and CD4 counts of 200-500 cells/mm3, what tests do you use? (Choose more than one option if appropriate) % n=26 | |
|---|---|
| Mantoux test | 7.7% |
| IGRA | 38.5% |
| None, unless the employee fulfils other criteria for IGRA/Mantoux test | 46.2% |
| Other, please specify | 34.6% |

**Table 15**

| For employees who are immunocompromised for reasons other than HIV, what tests do you use? (Choose more than one option if appropriate) | |
|---|---|
| Mantoux test | 20.0% |
| IGRA | 36.0% |
| None, unless the employee fulfils other criteria for IGRA/Mantoux test | 48.0% |
| Other, please specify | 20.0% |

For HIV positive or immunocompromised applicants, 96% of participants advise against working in high risk areas or with known or suspected case of open TB but no one imposes a total ban on patient contact

**Table 16**

| For staff who are immunocompromised (including HIV positive), what restriction(s) do you recommend? (Choose more than one option if appropriate) % n=27 | |
|---|---|
| No contact with patients | 0.0% |
| Not working in high risk areas | 40.7% |
| Not working with known or suspected cases of open TB | 96.3% |
| No restrictions | 3.7% |

### Locum and agency workers

Two third of applicants apply the same standard of screening to locum and agency workers and clinical students.

**Table 17**

| Do you apply the same standard of TB screening to the following? (Choose more than one option if appropriate) % n=27 | |
|---|---|
| Agency and locum workers | 66.7% |
| Clinical students | 100.0% |
| Other | 40.7% |

### TB reminders

Only 14 participants answered the question regarding TB reminders of which 5 (36%) complied with NICE CG117.

**Table 18**

| Do you send annual symptom reminders? (Choose more than one option if appropriate) % n=14 18 skipped | |
|---|---|
| All staff | 21.4% |
| Staff in contact with patients or clinical specimens | 35.7% |
| Staff who work or have worked in a high risk clinical setting for four weeks or longer | 57.1% |

### Non-audit results to establish practice ( completed by 25 participants )

### Guidance used

All twenty five participants completing this section used NICE TB guideline (version 2006 or 2011) as the basis of their TB policy/ protocol. Other sources used by participants entered in the free text were The Green Book, Department of Health, and advice from TB clinicians and Health Protection Unit.

**Table 19**

| What is your TB screening protocol/policy based on? % n=24 |
|---|

| | |
|---|---|
| **British Thoracic Society Guidance 2000** | 33.3% |
| **NICE 2006** | 37.5% |
| **NICE 2011** | 66.7% |
| **None** | 0.0% |
| **Other, please specify** | 16.7% |

### Purpose of TB screening and actions taken for latent TB

All participants reported that the purpose of their TB policy/ protocol is to protect patient with identifying applicants with acute TB

83% of participants considered their TB policy/ protocol was aimed at identifying latent TB to "protect" patients. However 87% do not take any other action other than reminding the individual concerned of active TB symptoms.

If an employee is diagnosed with latent TB, none of the participants stop him/ her from working and only 13% stop patient contact. The rest allow work without restriction but remind the employee of active symptoms TB. In the free text comments some commented that the applicant was referred on to the chest clinic for consideration ot chemoprophylaxis.

**Table 20**

| **What is the purpose of your TB protocol/policy? (Choose more than one option if appropriate)** % n=24 | |
|---|---|
| **To protect patients with identifying applicant with Active TB** | **100.0%** |
| **To protect patients with identifying applicant with Latent TB** | **83.3%** |
| **To protect staff with offering BCG** | **91.7%** |
| **To educate staff regarding TB** | **70.8%** |

**Table 21**

| **If an employee is diagnosed with latent TB what do you do?** % n=23 | |
|---|---|
| **The employee is not allowed to work until treated** | 0.0% |
| **The employee is not allowed contact with patient until treated** | 13.0% |
| **The employee can work but is reminded of symptoms of active TB** | 87.0% |

### Use of Mantoux prior to performing BCG in IGRA tested cases

Sixty-five percent of participants that use IGRA, perform a Mantoux test before offering BCG.

**Table 22**

| **For new NHS employees who have recently arrived from high-incidence countries who are IGRA negative and HIV risk assessment has been carried out, when do you offer BCG? % n=24** | |
|---|---|
| **Straight away** | 13.0% |

| | |
|---|---|
| **Perform Mantoux first** | 65.2% |
| **Not applicable** | 21.7% |

### Action taken if applicant declines BCG

If the applicant declines BCG, 96% of participants keep some form of written disclaimer and 78% communicate with manager.

**Table 23**

| If staff declined BCG despite OH advice, what form of documentation is used? % n=24 | |
|---|---|
| **They are asked to sign the notes** | **8.3%** |
| **They are asked to sign a standard disclaimer** | **58.3%** |
| **Document in the notes that they declined** | **70.8%** |
| **None** | **4.2%** |

**Table 24**

| If staff declined BCG despite OH advice, how do you advise the manager? % n=23 | |
|---|---|
| **Inform the manager the staff has declined BCG** | 34.8% |
| **Advise to perform a risk assessment** | 47.8% |
| **Advise no contact with patients** | 4.3% |
| **Advise not working in high risk areas** | 26.1% |
| **Advise not working with known or suspected cases of open TB** | 52.2% |
| **No communication with manager** | 21.7% |

### Acceptability of TB screening results from abroad

Two third of participants accept result of screening from abroad within certain criteria.

**Table 25**

| Do you accept results of screening (Mantoux, Heaf, IGRA, CXR etc) from abroad? % n=24 | |
|---|---|
| **No** | **33.3%** |
| **Yes (please indicate which of the conditions are mandatory)** | **54.2%** |
| **Should be in English** | **66.7%** |
| **Should be signed by OH professional or doctor** | **50.0%** |
| **Should be on letterhead** | **50.0%** |
| **Should be within a specified timeframe (please indicate)** | **45.8%** |
| **Other, please specify** | **4.2%** |

### Distribution of symptom reminders

Only 17 participants who completed this section answered this question.

Our assumption is that those who skipped this question do not send reminders; there was no answer 'no reminders sent' for them to select. Were this tool to be used again we would suggest that this question is added.

**Table 26**

| **How do you distribute symptom reminders?** % n=17 | |
|---|---|
| **Letter to staff** | 52.9% |
| **Email to all staff** | 17.6% |
| **Other paper forms (please indicate)** | 11.8% |
| **Other electronic forms (please indicate)** | 23.5% |

**Definition of prolonged stay in high risk areas**

Participants defined *prolonged stay* in '*people who are returning from prolonged stay in high risk areas*' in 6 different ways, the most common of which was 3 months (45%) followed by 1 month (32%).

**Applicants originally from a TB endemic area**

Two third of participants define applicants who are originally from an endemic area but have lived in the UK for a *long period of time*, as coming from a low incidence area. In this group, a *long period of time* was defined in 4 different ways and most common was 5 years (64%).

## Conclusion

This audit confirms that NICE CG117 has been open to interpretation. The audit demonstrated very good compliance with essential criteria such as performing screening and risk assessment. However a huge variation of practice is, observed in timing, method and order of screening. The variation is magnified in applicants from endemic areas. Certainly the influence of local chest physicians and infection control policies, as well as availability of tests and expertise within the OH team, are likely contributing factors to this variation. The variation is such that sharing information in an infectious disease immunity and immunisation 'passport' would be very difficult if not impossible currently for TB.

There are areas of practice that could be improved:

- screening HIV infected applicants, especially those from a TB endemic area could be enhanced.
- In cases of refusal of BCG, communication with the manager should be considered based on an individual risk assessment. From the legal perspective it is important that such refusal is clearly recorded in the OH notes.
- All workers, be it locum, agency or clinical students should screened to the same standard.

- In order to deal with complex cases such as immunocompromised applicants, advice should be sought from OH consultant

- TB reminders are easily communicated to all staff via Trust communications emails

The question regarding the benefit of diagnosing latent TB in the context of occupational health is open to argument; whether diagnosing latent TB is primarily a public or occupational health issue. In this audit 83% of participants considered their TB policy/protocol was aimed at identifying latent TB, but none stopped the individual from working and 87% allow patient contact.

There is certainly scope for the OH community to actively participate in the development of the guidance or during the consultation period to influence NICE and other authorities based on available evidence or consensus. It is of note that the recommendations in NICE CG117 that apply to occupational health practice are spread throughout the guidance. There might be some benefit in grouping together the recommendations that apply to occupational health practice so that these are clearly communicated. The Department of Health document *Health clearance for TB, hepatitis B , hepatitis C and HIV: New healthcare workers.* can be updated to reflect the changes in NICE CG117, 2011 edition..

It should be possible to develop widely agreed OH protocols to decrease the variation whilst accommodating local requirements. Such protocols should be developed by OH practitioners with input from respiratory physicians, infection prevention and control team, microbioligsts/ infectious disease specialist and other experts as deemed appropriate. OH community should actively contribute to consultations whereby TB guidance is being developed.

## References


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   http://www.bmj.com/content/343/bmj.d4281.extract

2. Clinical diagnosis and management of tuberculosis, and measures for its prevention and control. NICE CG33 March 2006.
   http://www.nice.org.uk/CG033

3. Tuberculosis: Clinical diagnosis and management of tuberculosis, and measures for its prevention and control. NICE CG117 January 2011
   http://publications.nice.org.uk/tuberculosis-cg117

4. Health clearance for TB, hepatitis B , hepatitis C and HIV: New healthcare workers.
   http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_074981.pdf

## Appendix 1 -Audit tool

## Data collection tool for LCOHPS audit of compliance with NICE guidance tuberculosis CG117

| | |
|---|---|
| OH Service Name,<br>Trust( s) and NHS contracts covered | |

Please fill separate forms if you follow different protocols for different NHS contracts

### Section 1 - Audit

1- When do you screen for TB/ health check? [Choose more than one option if appropriate]

☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't do any screening

2- How and when do you screen for TB?

2a. Symptom Enquiry
☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't use

2b. Documentary evidence*/ scar check
(* Documentary evidence of TB skin testing, interferon-gamma testing, previous BCG inoculation and/or BCG scar check by an occupational health professional)

☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't use

2c. Mantoux
☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't use

2d. IGRA (Interferon Gamma Release Assay)
☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't use

2e. CXR
☐ Post job offer– Pre Commencement
☐ Post commencement (including on the start day)
☐ Don't use

2f. If your answer does not fit any of our categories please explain what you do

3- Which group of staff do you ask about TB symptoms? [Choose more than one option if appropriate]

☐ Staff who have contact with patients
☐ Staff who have contact with clinical specimens
☐ Staff who will not have contact with patients or clinical specimens

4. What do you do if the applicants declare symptoms of TB? (Choose more than one option if appropriate)

☐ Medical examination by OH Nurse
☐ Medical examination by OH Physician
☐ CXR
☐ Refer to chest clinic

5- For new NHS employees who have recently arrived from high-incidence countries (>40 per 100,000 etc) and have no symptoms of TB, or who have had contact with patients in settings where TB is highly prevalent, please indicate the order (1, 2...etc) in which the following are used if indicated. Use “0” if not used

☐IGRA
☐Mantoux test
☐ Medical examination by OH Nurse
☐ Medical examination by OH Physician
☐CXR
☐Referral to chest clinic

6- For new NHS employees from low-incidence setting, without prior evidence of BCG vaccination, please indicate the order in which the following are used if indicated. Use “0” if not used.

☐IGRA
☐Mantoux test
☐ Medical examination by OH Nurse
☐ Medical examination by OH Physician
☐CXR
☐Referral to chest clinic

7- Do you offer BCG to staff who are Mantoux and/ or IGRA negative?

☐Yes
☐No

8- In Mantoux/IGRA negative cases do you perform HIV risk assessment prior to giving BCG?

☐ Yes
☐ No

9- If a prospective or current healthcare worker who is Mantoux negative (less than 6 mm) and / or IGRA negative declines BCG vaccination, what do you do? [Choose more than one option if appropriate]

☐ Explain the risks orally
☐ Supplementary written advice

10- If the person declines BCG vaccination despite OH advice, what do you do?

☐ Blanket ban to work in areas that there is a risk of exposure to TB
☐ Individual risk assessment based on which they may be allowed to work in areas where there is a risk of exposure to TB
☐ Other, please specify

11- For employees with positive HIV and CD4 counts **less than 200 cells/mm3**, what tests do you use? [Choose more than one option if appropriate]

☐ Mantoux test
☐ IGRA
☐ None, unless the employee fulfils other criteria for IGRA /Mantoux test
☐ Other, please specify

12- For employees with positive HIV and CD4 counts **of 200 - 500 cells/mm3**, what tests do you use? [Choose more than one option if appropriate]

☐ Mantoux test
☐ IGRA
☐ None, unless the employee fulfils other criteria for IGRA /Mantoux test
☐ Other, please specify

13- For employees who are immunocompromised for reasons other than HIV, what tests do you use? [Choose more than one option if appropriate]

☐ Mantoux test
☐ IGRA
☐ None, unless the employee fulfils other criteria for IGRA /Mantoux test
☐ Other, please specify

14- For staff who are immunocompromised (including HIV positive), what restriction(s) do you recommend? [Choose more than one option if appropriate]

☐ No contact with patients
☐ Not working in high risk areas
☐ Not working with known or suspected cases of open TB
☐ No restrictions

15- Do you apply the same standard of TB screening to the following? [Choose more than one option if appropriate]

☐Agency and locum workers
☐Clinical students
☐ Other

16- Do you send annual symptom reminders? [Choose more than one option if appropriate]

☐ All staff
☐ Staff in contact with patients or clinical specimens
☐ Staff who work or have worked in a high risk clinical setting for four weeks or longer

ection 2 – Additional Information

The following questions are not part of NICE implementation audit and tend to measure practice. Use the “Comments” text box wherever necessary.

20- What is your TB screening protocol/ policy based on?

☐ British Thoracic Society Guidance 2000
☐ NICE 2006
☐ NICE 2011
☐ None
☐ Other, please specify

21- What is the purpose of your TB protocol/ policy? [Choose more than one option of appropriate]

☐To protect patients with identifying applicant with Active TB
☐To protect patients with identifying applicant with Latent TB
☐To protect staff with offering BCG
☐To educate staff regarding TB
Comments:

22- If an employee is diagnosed with latent TB what do you do?

☐The employee is not allowed to work until treated
☐ The employee is not allowed contact with patient until treated
☐ The employee can work but is reminded of symptoms of active TB
Comments:

23- For new NHS employees who have recently arrived from high-incidence countries who are IGRA negative and HIV risk assessment has been carried out, when do you offer BCG?

☐Straight away
☐Perform Mantoux first
☐ Not Applicable
Comments:

24- If staff declined BCG despite OH advice, what form of documentation is used?

☐ They are asked to sign the notes
☐ They are asked to sign a standard disclaimer
☐ Document in the notes that they declined
☐None
Comments:

25 - If staff declined BCG despite OH advice, how do you advise the manager?

☐ Inform the manager the staff has declined BCG
☐ Advise to perform a risk assessment
☐ Advise no contact with patients
☐ Advise not working in high risk areas
☐ Advise not working with known or suspected cases of open TB
☐ No communication with manager

26- For students and agency/ locum staff, who performs the tests?
☐You perform all the tests similar to staff
☐They should produce acceptable documentation by the agency of screening to your standard
☐ Other, please specify
Comments:

27- Do you accept results of screening (Mantoux, Heaf, IGRA, CXR etc) from abroad?

☐No
☐Yes (please indicate which of the conditions are mandatory)
☐Should be in English
☐Should be signed by OH professional or doctor
☐Should be on letterhead
☐Should be within a specified time frame (please indicate)
☐ Other, please specify
Comments:

28- How do you distribute symptom reminders?

☐Letter to staff
☐Email to all staff
☐Other paper forms (please indicate)
☐Other electronic forms (please indicate)
Comments:

29 – How do you define “prolonged stay in people who are returning from prolonged stay in high risk areas? [Please clarify the cut off as weeks or months]

30 – In applicants new to the NHS, who are originally from high risk areas but have lived in the UK for a period of time, what do you do?
☐ Approach as people from high risk area regardless of the length of time they lived in the UK
☐ Approach as people from low risk area if they have lived in the UK for *long period*

If you chose second option (low risk area), how do you define *long period* [Please clarify the cut off as months or years]

## Appendix 2 – NICE standards used in the audit

### Standards for LCOHPS audit of compliance with NICE TB guidance CG117

| Healthcare environments: new NHS employees | NICE GC117 standard |
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| Employees new to the NHS who will be working with patients or clinical specimens should not start work until they have completed a TB screen or health check, or documentary evidence is provided of such screening having taken place within the preceding 12 months. ( 2006) | 1.9.1.1 LCOHPS 1,2b |
| Employees new to the NHS who will not have contact with patients or clinical specimens should not start work if they have signs or symptoms of TB. ( 2006) | 1.9.1.2 LCOHPS 1,2a,3 |
| Health checks for employees new to the NHS who will have contact with patients or clinical materials should include:<br>• assessment of personal or family history of TB<br>• symptom and signs enquiry, possibly by questionnaire<br>• documentary evidence of TB skin testing (or interferon-gamma testing) and/or BCG scar check by an occupational health professional, not relying on the applicant's personal assessment<br>• Mantoux result within the last 5 years, if available. (2006) | 1.9.1.3<br><br>LCOHPS 2a,2b,2c,2d |
| See recommendations 1.1.1. 14–1.1.1.17 for screening new NHS employees for latent TB. ( **2011**) | 1.9.1.3 |
| Employees who will be working with patients or clinical specimens and who are Mantoux negative (less than 6 mm) should have an individual risk assessment for HIV infection before BCG vaccination is given. (2006) | 1.9.1.4 LCOHPS 8 |
| Employees new to the NHS should be offered BCG vaccination, whatever their age, if they will have contact with patients and/or clinical specimens, are Mantoux negative (less than 6 mm) and have not been previously vaccinated. ( 2006) | 1.9.1.5 LCOHPS 7 |
| Employees of any age who are new to the NHS and are from countries of high TB incidence, or who have had contact with patients in settings with a high TB prevalence should have an interferon-gamma test. If negative, offer BCG vaccination as with a negative Mantoux result (see recommendations 1.9.1.5 and 1.9.1.6). If positive, the person should be referred for clinical assessment for diagnosis and possible treatment of latent infection or active disease.<br>**(2006 amended 2011**) | 1.9.1.6 LCOHPS 5 |
| If a new employee from the UK or other low-incidence setting, without prior BCG vaccination, has a positive Mantoux and a positive interferon-gamma test, they should have a medical assessment and a chest X-ray. They should be referred to a TB clinic for consideration of TB treatment if the chest X-ray is abnormal, or for consideration of treatment of latent TB infection if the chest X-ray is normal. **(2006 amended 2011)** | 1.9.1.7 LCOHPS 6 |

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| If a prospective or current healthcare worker who is Mantoux negative (less than 6 mm) declines BCG vaccination, the risks should be explained and the oral explanation supplemented by written advice. If the person still declines BCG vaccination, he or she should not work where there is a risk of exposure to TB. The employer will need to consider each case individually, taking account of employment and health and safety obligations. (2006) | 1.9.1.8<br><br>LCOHPS 9,10 |
| Clinical students, agency and locum staff and contract ancillary workers who have contact with patients or clinical materials should be screened for TB to the same standard as new employees in healthcare environments, according to the recommendations set out above. Documentary evidence of screening to this standard should be sought from locum agencies and contractors who carry out their own screening. (2006) | 1.9.1.9<br><br>LCOHPS 15 |
| NHS trusts arranging care for NHS patients in non-NHS settings should ensure that healthcare workers who have contact with patients or clinical materials in these settings have been screened for TB to the same standard as new employees in healthcare environments (see recommendations 1.9.1.1–1.9.1.10).<br>See the algorithm on screening new NHS employees (appendix C) for a summary. ( 2006) | 1.9.1.10 |
| For people with HIV and CD4 counts less than 200 cells/mm3, offer an interferon-gamma test and a concurrent Mantoux test. If either test is positive: • perform a clinical assessment to exclude active TB and<br>• consider treating latent TB infection. **( new 2011)** | 1.1.1.11<br>LCOHPS 11 |
| For people with HIV and CD4 counts of 200–500 cells/mm3, offer an interferon-gamma test alone or an interferon-gamma test with a concurrent Mantoux test. If either test is positive:<br>• perform a clinical assessment to exclude active TB and<br>• consider treating latent TB infection. [**new 2011]** | 1.1.1.12<br><br>LCOHPS 12 |
| For other people who are immunocompromised, offer an interferon-gamma test alone or an interferon-gamma test with a concurrent Mantoux test. If either test is positive:<br>• perform a clinical assessment to exclude active TB and<br>• consider treating latent TB. **(new 2011)** | 1.1.1.13<br><br>LCOHPS 13 |
| **Healthcare workers** | |
| Offer a Mantoux test to new NHS employees who will be in contact with patients or clinical materials if the employees:<br>• are not new entrants from high-incidence countries and<br>• have not had BCG vaccination (for example, they are without scar, other documentation or reliable history). **( new 2011**) | 1.1.1.14<br>LCOHPS 6 |
| If the Mantoux test is negative, refer to the Green Book for BCG immunisation guidance. If the Mantoux test is positive, offer an interferon-gamma test<br>**(new 2011**). | 1.1.1.15<br><br>LCOHPS 6 |

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| Offer an interferon-gamma test to new NHS employees who have recently arrived from high-incidence countries or who have had contact with patients in settings where TB is highly prevalent. (**new 2011)** | 1.1.1.16<br>LCOHPS 5 |
| Healthcare workers who are immunocompromised should be screened in the same way as other people who are immunocompromised. **( new 2011**) | 1.1.1.17<br>LCOHPS 14 |
| These recommendations set the standard for NHS organisations and therefore should apply in any setting in England and Wales where NHS patients are treated.<br><br>Reminders of the symptoms of TB, and the need for prompt reporting of such symptoms, should be included with annual reminders about occupational health for staff who:<br>• are in regular contact with TB patients or clinical materials, or<br>• have worked in a high-risk clinical setting for 4 weeks or longer.<br>One-off reminders should be given after a TB incident on a ward. ( 2006) | 1.9.2.1<br>LCOHPS 16 |
| If no documentary evidence of prior screening is available, staff in contact with patients or clinical material who are transferring jobs within the NHS should be screened as for new employees (see section 1.9.1). (**2006)** | 1.9.2.2 |
| The risk of TB for a new healthcare worker who knows he or she is HIV positive at the time of recruitment should be assessed as part of the occupational health checks. (2006 | 1.9.2.3<br>LCOHPS 11,12,14 |
| The employer, through the occupational health department, should be aware of the settings with increased risk of exposure to TB, and that these pose increased risks to HIV-positive healthcare workers. (2006) | 1.9.2.4<br>LCOHPS 14 |
| Healthcare workers who are found to be HIV positive during employment should have medical and occupational assessments of TB risk, and may need to modify their work to reduce exposure. (2006) | 1.9.2.5<br>LCOHPS 14 |
| Clinical students, agency and locum staff and contract ancillary workers who have contact with patients or clinical materials should be screened for TB to the same standard as new employees in healthcare environments, according to the recommendations set out above. Documentary evidence of screening to this standard should be sought from locum agencies and contractors who carry out their own screening. (2006) | 1.9.1.9<br>LCOHPS 15 |

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| **Standards Diagnosing latent TB** | |
| Offer Mantoux testing in line with the Green Book to diagnose latent TB in people who are:<br>• household contacts (aged 5 years and older) of all people with active TB<br>• non-household contacts (other close contacts for example, in workplaces and schools). (2006) | 1.1.1.1 |
| Consider interferon-gamma testing for people whose Mantoux testing shows positive results, or in people for whom Mantoux testing may be less reliable, for example BCG-vaccinated people. **(new 2011)** | 1.1.1.2<br>LCOHPS 2d,6 |
| If Mantoux testing is inconclusive, refer the person to a TB specialist. ( **new 2011)** | 1.1.1.3<br>LCOHPS 5,6 |
| **Standards BCG vaccination for healthcare workers** | |
| BCG vaccination should be offered to healthcare workers, irrespective of age , who:<br>• are previously unvaccinated (that is, without adequate documentation or a characteristic scar), and<br>• will have contact with patients or clinical materials, and<br>• are Mantoux (or interferon-gamma) negative. (2006)<br>See sections 1.9.1 and 1.9.2 for details of occupational health screening. | 1.7.5.1<br>LCOHPS 7 |
| People identified for BCG vaccination through occupational health, contact tracing or new entrant screening who are also considered to be at increased risk of being HIV positive, should be offered HIV testing before BCG vaccination . (2006) | 1.7.1.2<br>LCOHPS 8 |
| **Standards Treatment of latent TB infection** | |
| Treatment of latent TB infection should be considered for people in the following groups, once active TB has been excluded by chest X-ray and examination.<br>• People identified through screening who are:<br>• 35 years or younger (because of increasing risk of hepatotoxicity with age)<br>• any age with HIV<br><br>• **any age and a healthcare worker**<br>and are either:<br>• Mantoux positive (6 mm or greater), and without prior BCG vaccination, or<br>• strongly Mantoux positive (15 mm or greater), interferon-gamma positive, and with prior BCG vaccination.<br>• Children aged 1–15 years identified through opportunistic screening to be: | 1.6.1.1<br>LCOHPS 5,6 |

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| • strongly Mantoux positive (15 mm or greater), and<br>• interferon-gamma positive (if this test has been performed), and<br>• without prior BCG vaccination.<br>• People with evidence of TB scars on chest X-ray, and without a history of adequate treatment. (**2006 amended 2011**) | |