Public Health England

MANAGEMENT OF TUBERCULOSIS IN PRISONS: Guidance for prison healthcare teams

Document control

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Although this guidance is directed to prison healthcare teams, local Health Protection Teams[1] should ensure that it is shared with local NHS TB services.

[1] The local Public Health England Centre Health Protection Teams have replaced the HPA Health Protection Units.

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1. Scope of this guidance

Tuberculosis (TB) is a serious but treatable infection. Rates of TB are high and rising among people in prison. Some forms of TB (those affecting the lungs or larynx) can be transmissible to other prisoners and on rare occasions to staff. This guidance aims to minimise the risk of transmission of tuberculosis within the prison environment through efficient systems to detect cases early and ensure effective treatment, and by ensuring continuity of care when patients move around the prison estate and/or leave the prison. It covers:

- TB screening of new prisoners
- Identification of cases within the prison
- Investigation
- Isolation of those who test positive or are suspected of having TB
- Management of prisoners with TB or latent TB
- Transfer or discharge of prisoners
- Personal protection for staff.

Key management points

- Any prisoners with a cough of more than three weeks duration must be medically assessed for tuberculosis.
- Prisoners with suspected or confirmed pulmonary TB must be isolated in a single cell until considered no longer infectious.
- The local Health Protection Team and the local NHS TB service must be informed as soon as possible.
- The Health Protection Team and the TB service will determine, in liaison with the prison healthcare team, the extent of any contact tracing and screening necessary.
- All prisoners being treated for TB (or latent TB infection) must have directly observed therapy (DOT).
- TB treatment and management should be supervised by the local NHS TB service.
- Prisoners on TB treatment must be placed on *medical hold* until they have been established on the appropriate TB treatment and are considered to be no longer infectious.
- Continuity and completion of treatment is paramount. Close liaison with the local TB service must take place to ensure treatment on leaving the prison.

2. Roles and responsibilities

Prison healthcare team is responsible for:

- Early identification of cases
- Informing the local NHS TB service of any suspected or confirmed TB cases as soon as possible
- Informing the local Health Protection Team of any suspected or confirmed TB case as soon as possible
- Providing the Health Protection Team or local NHS TB service with information about cell contacts and other contacts as requested and as soon as possible (within 72 hours of the request)
- Identifying a lead nurse for TB in the prison, or if a lead nurse is not available, a case manager for each TB incident/case.
- Developing, with the local NHS TB service, a care plan/pathway for prisoners with TB or latent TB infection.
- The day-to-day management of cases, in close consultation with the local NHS TB service.

Local NHSTB service is responsible for:

- Following up all suspected and known TB cases in the prison (making regular visits to patients, and liaising with prison healthcare to ensure suspected/known cases are appropriately managed)
- Ensuring TB Nurses have appropriate security clearance for each prison in the area.

Health Protection Team is responsible for:

- Leading on the management of all TB incidents in the prison (including all smear positive pulmonary TB cases), working with the Head of Healthcare
- Convening an incident control meeting if indicated and with the agreement of the Prison Governor or nominated deputy.

3. Screening new prisoners for TB

All new prisoners should be assessed for their TB risk by symptom screening (and, if facilities are available in the prison for this, digital chest x-ray) and appropriate action then taken:

- The symptom screening process should be agreed locally and will depend on local prevalence. (an example of a risk assessment tool is at appendix 1).
- If available, the digital chest X ray pathway should be followed as agreed locally.
- The algorithm for the management of TB in prisons should be followed (appendix 2).

Any prisoner with a productive cough for more than three weeks who also has any other TB symptom (fever, night sweats, coughing blood, weight loss or generally feeling unwell) should be isolated in a single cell as soon as possible (preferably in the healthcare unit if available) and should have a medical assessment as soon as possible.

If the prison doctor/GP suspects TB, s/he should urgently refer the patient to the local NHS TB service for further investigations. Sputum specimens should be taken from the patient

(if they are able to produce good quality specimens) and sent for TB microscopy and culture to the local laboratory as soon as possible. The case should be reported to the local Health Protection Team promptly.

4. Prisoners who develop symptoms in prison

A prison primary care nurse should assess any prisoner who presents with:

- A history of a cough lasting three weeks or longer.
- Unexplained weight loss.
- Any cough with other TB symptoms - weight loss, fever, night sweats, haemoptysis, anorexia.

Prisoners with these symptoms should be referred to the prison doctor for further assessment. **(see Appendix 3, Pathway B)**

5. Reporting of cases of TB

- All cases of suspected or confirmed TB must be reported as soon as possible to the local Health Protection Team and to the local NHS TB service.
- Public health action within the prison may be required, depending on the circumstances. This will be determined after discussion between the Health Protection Team lead/Consultant in Health Protection, the TB service and the prison healthcare manager.
- The local NHS TB service should complete the enhanced TB surveillance form or the London TB register. On this form, 'Prisoner' should be entered in the field for 'occupation' and the risk factor section regarding current/past prisoner status should be completed.

6. Investigating prisoners with symptoms of TB

Chest x-ray

- Chest x-rays should be done in the prison (where available) as soon as possible (see **Appendix 3, Pathway A**).
- Chest x-rays should be reported urgently and reports given to the prison doctor.
- Any prisoner with an abnormal chest x-ray suggestive of TB must be isolated in a single cell as soon as possible and referred urgently to the local TB service regardless of sputum sample results.

Sputum samples for microscopy and culture

- Three consecutive sputum samples should be obtained over three days. One of these should be an early morning specimen. Poor quality specimens may delay diagnosis.
- The three samples should be accurately labelled and sent individually with the request form to the local microbiology department. The specimens can be kept in the specimen fridge if they are being collected over the weekend.

- The prison doctor must liaise with the microbiology department to obtain sputum results. If possible, a second member of the healthcare team should also be allocated to follow up results.

7. Isolation

Prisoners should be isolated in a single cell[2] in the following circumstances:

- High clinical suspicion of pulmonary TB, pending the outcome of diagnostic tests.
- Abnormal chest x-ray with suspicion of TB, pending the outcome of diagnostic tests.
- Confirmed pulmonary TB and compliant with treatment, for at least the first two weeks of treatment and subject to agreement with the local TB service.
- Confirmed pulmonary TB and non-compliant with treatment, for as long as deemed necessary by the local TB service and Health Protection Team.

Patients with pulmonary smear positive TB should be asked to wear a surgical mask when leaving isolation during the infectious period (usually until two weeks treatment is complete).

Before discharge from isolation their 'step-down' should be approved by the local NHS TB service in liaison with the HPU.

Whilst in isolation the prisoner must be made 'unfit for court' but can attend via a video link if this is acceptable to the court and s/he is well enough.

Assessment for multi-drug resistant (MDR) TB
All patients with confirmed or suspected pulmonary TB should have a risk assessment carried out in liaison with the local TB service in relation to multi drug resistant TB (MDRTB). The assessment will include:

- History of previous TB treatment
- History of contact with MDRTB
- Previous residence in a country with high incidence of MDRTB
- Known HIV infection
- History of non-compliance with previous medication

All cases at high risk of MDRTB must be isolated appropriately. This will usually mean transfer to an outside hospital.

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2. In some prisons single cell ventilation may be "in series" with air flowing from one cell to another. If this is the case, prisoners with suspected TB should be held in the final cell in the series or consideration given to transfer to isolation in the health care unit. This should be discussed with the prison estates department.

8. Treatment of prisoners with confirmed pulmonary TB

- Urgent referral is required from the prison doctor/GP to the Consultant respiratory physician or infectious diseases Consultant in the local NHS TB service.
- Prisoners must be given written and verbal information about their diagnosis and treatment and medical records should be updated as necessary. Interpreters should be used where appropriate.
- The prisoner should be placed on *medical hold* by the prison doctor until s/he is fit to attend court and is no longer considered to be infectious to others.
- **All prisoners with TB (or who are on treatment for latent TB infection[3]) should receive directly observed therapy (DOT)** in which a responsible prison officer, nurse or pharmacist supervises, witnesses and records the swallowing of every dose of TB medication.
- Anti TB drugs must **never** be given 'in possession'.
- **The local TB service (TB nurse)** should visit the prisoner where possible within **one** week of the prisoner commencing TB treatment to assess side effects and clinical issues, and advise on compliance. Thereafter, an agreed schedule for the TB nurse to visit each patient should be agreed.
- Any issues of concern (e.g. compliance or side effects) noted by the prison healthcare team should be reported to the local TB service as soon as possible (same working day). The local TB service should undertake an immediate risk assessment on the telephone and should make a visit to assess the patient based on the risk assessment.
- The prison doctor and the local NHS TB service must be informed **of any missed dose of medication for any reason as soon as possible**.
- The prison lead nurse/TB link nurse will liaise weekly with pharmacy regarding prisoners on treatment to identify all TB patients on treatment in the prison.
- Treatment cards should be regularly checked by the prison lead nurse/TB link nurse to ensure treatment is being given.
- If the patient has to leave the prison for any reason e.g. court appearance, transfer or release, **at least one week's medication should accompany him/her**.
- Prisoners taking methadone who are prescribed rifampicin may require an upward dose adjustment of methadone, as rifampicin decreases the efficacy of methadone. This must be done in liaison with the substance misuse doctor and the local TB service.
- Only those who need to be aware of the diagnosis should be informed. Care must be taken to avoid stigmatisation of prisoners who have TB.

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3. Latent TB infection is a state in which viable mycobacteria are present in the body without currently causing active disease but with the potential to reactivate and cause disease. The latent focus may be the result of tuberculosis infection which has not progressed to cause disease, or old tuberculosis disease that is not currently active, e.g. calcified nodes on chest x-ray. An adequate course of chemoprophylaxis (or anti-tuberculosis treatment) is believed to effectively prevent a latent focus from reactivating in most patients for at least 20 years http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Tuberculosis/GeneralInformation/TBgen03TBglossary/

9. Prisoners arriving in the prison already on treatment

A prisoner who comes into the prison already on TB treatment should usually be admitted to a single cell and then assessed as to whether isolation precautions are necessary as soon as possible.

The local NHS TB service should be informed **within one working day** of any case of TB who is transferred into the prison whilst on treatment. As a minimum, the information should include:

- Name, date of birth and prison number of the patient.
- Site of TB disease, and culture and antibiotic sensitivity results.
- When started treatment and where.
- Whether they have been on treatment for two weeks or more (especially for pulmonary cases).
- Whether they have been compliant with directly observed therapy (DOT).
- Whether there are any risk factors for MDR TB (if full sensitivities not available).

Non-compliant patients who are symptomatic must be considered at risk of MDRTB and a risk assessment for MDRTB must be carried out urgently by the local TB service.

10. Treatment of prisoners with extra pulmonary TB or with latent TB infection

- Cases of extra pulmonary TB (e.g. of bone, lymph nodes) are unlikely to be infectious (except for TB of the larynx which is rare but highly infectious) but will still be managed by the local TB service. The local Health Protection Team must be informed of **all** cases of TB.
- Cases of latent TB infection will be identified after screening (see below) or will arrive in prison on treatment. They are not infectious.
- Ensuring compliance is important regardless of the site of the disease, both to prevent disease progression and to prevent drug resistance.
- **All prisoners with TB (or who are on treatment for latent TB) should receive directly observed therapy (DOT)** - a responsible prison officer, nurse or pharmacist (according to locally agreed practice) supervises, witnesses and records the swallowing of every dose of TB medication.

11. Incident management

Incident management will be led by the local Health Protection Team, subject to the agreement of the Prison Governor, and will follow HPA[4] guidance for the management of TB incidents and outbreaks in the prison setting.

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[4] Whilst the HPA is now part of PHE, this guidance should still be used until superseded by another document.

Smear positive pulmonary TB

Smear positive pulmonary TB **is infectious** and the following actions are required:

- Cases of smear positive pulmonary TB should be reported to the Health Protection Team **within 24 hours** of receipt of smear positive result.
- The following information should be provided on reporting:
    - date of onset of symptoms
    - date of arrival in the prison (new arrival or transfer from another prison).
- The Health Protection Team and the local TB service will determine, in liaison with the prison healthcare team, the extent of contact tracing and screening necessary.
- Information on prisoner, staff and other contacts should be available within 72 hours of being requested by the Health Protection Team.
- If required, the Health Protection Team will convene an incident meeting, with the agreement of the Prison Governor, as soon as possible so that an action plan can be agreed.
- Attendees at an incident meeting should include:
    - Consultant/Specialist in Health Protection
    - Designated Health Care Manager
    - Lead nurse/TB link nurse from the prison
    - Nurse and/or physician from the local NHS TB service
    - Governor or Deputy or Senior Officer from wing where the case was based

Contact tracing

The designated prison health care lead or TB link nurse must provide the following information if requested by Health Protection Team incident lead as soon as possible (usually within 72 hours):

- Name, prisoner number, date of birth, current location of prisoners who:
    - have shared a cell with the affected prisoner since symptoms started, or if the date of onset of symptoms is not clear, then for three months prior to diagnosis.
    - have been involved with activities (e.g. education sessions) and who have had a cumulative close contact of **8 hours per week or more** with the prisoner since symptoms started, or if the date of onset of symptoms is not clear, then for three months prior to diagnosis.
- Names, addresses, dates of birth, of all officers/healthcare staff who have had a cumulative contact of **8 hours per week or more** with the index case since symptoms started, or if the date of onset of symptoms is not clear, then for three months prior to diagnosis. Note: arrangements will be made in the community for any staff who are identified as requiring screening, in line with local arrangements
- Names, addresses, dates of birth of any other individuals who have had a cumulative contact of **8 hours per week or more** with the index case since symptoms started, or if the date of onset of symptoms is not clear, then for three months prior to diagnosis.

Support from the Prison Governor my need to be sought via the incident team in relation to finding information about prisoners who have already transferred to other establishments.

Screening

- Screening for TB follows a 'stone in the pond' approach i.e. if after an initial round of screening there is evidence of possible onward transmission, a second risk assessment may be carried out to extend screening to more contacts.
- Timelines for screening of cell and other prisoner contacts will be agreed at the incident meeting.
- Mode of screening will be agreed at the incident meeting.
- However all agreed prisoner contacts should be interviewed by a member of the health care team and checked for TB signs and symptoms.
- Any contacts with symptoms suggestive of TB or an abnormal chest x-ray should be placed on medical hold, and assessed by the GP as soon as possible – see section 6.

Smear negative pulmonary TB

Smear negative pulmonary TB may be less infectious but a risk assessment by the Health Protection Team must still be undertaken. If the case has a cough, they should remain in isolation and on medical hold until the PCR/culture results are available or a chest physician from the local TB service has clinically excluded infectious TB.

12. Discharge or transfer of prisoners with TB or on treatment for latent TB infection

As early as possible, prison healthcare services should draw up a plan for transfer or discharge (including directly from a court appearance) for any prisoner with TB or on treatment for latent TB. This should include firm arrangements for clinical follow up and treatment monitoring.

Any transfer of a prisoner will require close liaison with the receiving prison and local TB service. If the prisoner is to be released into the community, a clear communication link with the receiving local TB services is vital.

Court attendance

- The prison lead nurse/TB link nurse should liaise with the Prison/Offender Management Department regarding court attendances.
- All relevant health and community agencies particularly the local TB service must be informed in order to prepare for transfer of care to the community if there is any possibility of the prisoner being released from court.
- A one-week supply of medication must be given to the prisoner in case he is released or in case the prisoner is sent to a different establishment.
- The medical notes should be up to date and should indicate what medication the prisoner is receiving, and the patient should be given a letter outlining the investigations he/she has had, the diagnosis and treatment plan, which he/she should present to the receiving clinic/doctor.

Release and community follow-up

- The prison lead nurse/TB link nurse must identify release dates and liaise with the local TB service. Arrangements for transfer of care to the community and close liaison with the prisoner, the receiving local TB service and all those that may be

involved in his community care e.g. drug dependency unit, drug intervention programme (DIP) worker, hostel staff are paramount to ensuring continuity of treatment.
- A case conference should be considered to ensure a package of care is in place to support the prisoner on release.
- Accommodation must be identified for homeless patients prior to release. This may require close liaison with other agencies including housing.
- Directly Observed Treatment (DOT) must be arranged in the community in conjunction with the relevant TB clinic.
- The patient MUST be aware of where and when he should report to for the continuation of his treatment.
- The use of language line may be required for patients who do not speak English and are at risk of becoming lost to follow up on release

The prison lead nurse/TB link nurse should inform the local Health Protection Team of all TB cases released from prison or transferred to another prison using locally agreed reporting mechanisms.

13. Personal protection for staff working in prisons

Staff in contact with possible or confirmed cases of TB

- Only patients with TB of the lungs (or TB of the larynx which is very rare) are potentially infectious to others. Infectivity remains as long as there are viable organisms in the sputum. Appropriate treatment results in most patients becoming non-infectious in two weeks.
- During transfer to hospital, prisoners with suspected or confirmed infectious TB should wear a surgical mask unless advised otherwise by the TB service.
- The risk of measures such as bed watching in hospital rooms should be discussed on a case-by-case basis with hospital healthcare staff.
- The wearing of masks, gowns or gloves by prison staff is usually not necessary.
- No special precautions are required regarding crockery, eating utensils, books, bed linen etc that have been used by a prisoner with TB.

Staff in contact with possible or confirmed cases of MDR TB

- Infection control measures for multidrug resistant disease are more strict. The vast majority of cases of TB in the UK are *not* MDR TB.
- MDR TB cases are not usually discharged from hospital until they are considered non-infectious and it is extremely unlikely that infectious patients with multidrug resistant disease would be discharged to a prison environment. This should only happen after careful discussion between the prison healthcare manager, the TB service and the Consultant in Health Protection.

14. Source documents

National Institute for Clinical Excellence. NICE clinical Guideline 117. *Tuberculosis. Clinical diagnosis and management of tuberculosis, and measures for its prevention and control.* 2011
http://www.nice.org.uk/nicemedia/live/13422/53638/53638.pdf

Health Protection Agency. *Guidance for Health Protection Teams on responding to TB incidents and outbreaks in prisons*. 2010
www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1263812654991

Health Protection Agency and Department of Health: *Prevention of infection and communicable disease control in prisons and places of detention – a manual for healthcare workers*. 2011
http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1309970437635

Public Health England Migrant Health website
http://www.hpa.org.uk/MigrantHealthGuide

Appendix 1: Example of a risk assessment tool

	Question	Management if yes
1	Is the prisoner currently on treatment for TB disease?	Pathway C
2	Is the prisoner currently on treatment for latent TB infection?	Pathway C
3	Does the prisoner have a persistent cough for at least three weeks	Pathway B
4	Does the prisoner have one or more of the following • Coughing up blood • Unexplained weight loss • Fever • Night sweats .	If plus any cough, pathway B If no cough, refer to prison GP for further assessment
5	Is the prisoner from a high incidence* country or has s/he been in a high incidence* country for more than three months in the last year?	Refer to prison GP for further assessment
6	Has the prisoner had TB in the past? (get details of when, treatment received etc)	Refer to prison GP for further assessment
7	Has the prisoner had contact with anybody with TB in the last 5 years?	Refer to prison GP for further assessment
8	Has the prisoner had a history of street homelessness at any stage?	Refer to prison GP for further assessment

Definition of high incidence
With reference to the National Institute for Health and Clinical Excellence (NICE) recommendations for BCG vaccination and screening in England and Wales, countries/territories with an estimated incidence rate of 40 per 100,000 or greater are considered to have a high incidence of tuberculosis.

List of countries at:
http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Tuberculosis/TBWorldwideData/

Appendix 2: Algorithm for the management of TB in prisons

Management of tuberculosis in prisons: Guidance for prison healthcare teams, May 2013