

ICPG1 INFECTION PREVENTION AND CONTROL PROCEDURAL GUIDELINES SECTION 7: PREVENTION AND MANAGEMENT OF TUBERCULOSIS

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PROCEDURE SUMMARY
The purpose of this document is to provide guidance on establishing the infectiousness of patients with tuberculosis and to specify the measures required to prevent the spread of infection to other patients, visitors and staff.
The Trust monitors the implementation of and compliance with this procedure in the following ways;
The responsibility for monitoring and reviewing this Policy lies with the Director responsible for Infection Prevention and Control. Compliance with this procedure will be audited. Audit results will be presented to the Infection Prevention and Control Group.

Services	Applicable	Comments
Trustwide	✓	

**The Director responsible for monitoring and reviewing this procedure is
Director for Infection Prevention and Control**

SECTION 7: PREVENTION AND MANAGEMENT OF TUBERCULOSIS

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1.0 INTRODUCTION

- 1.1 Tuberculosis (TB) is an infectious disease caused by the *Mycobacterium tuberculosis* bacilli. TB commonly affects the lungs, but can affect any part of the body. It is usually spread by the coughs or sneezes of an infected person, but is not highly contagious. Prolonged close contact with a person with TB - for example, living in the same household - is usually necessary for infection to be passed on. It may take many years before someone infected with TB develops the full disease.
- 1.2 The most common symptoms include:
- a cough that lasts for more than three weeks
 - loss of weight for no obvious reason
 - fever and heavy night sweats
 - a general and unusual sense of tiredness and being unwell
 - loss of appetite
 - coughing up blood
- 1.3 Tuberculosis (TB) is a disease which is responsible for more deaths than almost any other infectious disease, and was declared a 'global emergency' by the World Health Organization in 1993. TB is curable with a combination of specific antibiotics, but treatment must be continued for at least six months.
- 1.4 Resistance to TB drug treatment can develop, and in some cases multi-drug resistance (MDR TB) develops if patients are not compliant with medication. All patients with TB should have risk assessments for drug resistance and for HIV (NICE 2011). There is some evidence that patients with mental health problems are at greater risk of developing MDR TB (Story et al 2007).

2.0 MANAGEMENT

- 2.1 Where a diagnosis of infectious TB is confirmed, a risk assessment should be undertaken to determine the most appropriate place to nurse the patient (NICE 2011). Where patients are currently in health or social care settings it may be deemed necessary to transfer the patient to the local hospital for isolation and treatment. If patients are diagnosed at home and are receiving services from EPUT it may be beneficial to continue to provide care at home unless there is a clinical need not to do so. This will reduce the risk of spreading the infection to others.
- 2.2 Some patients may require transfer to hospital while still infectious. The nurse in charge of the ward/unit must inform the receiving ward of the patient's infectious status before the transfer is agreed. This must be recorded on the transfer letter and a copy kept in the patient's notes. The ambulance staff must be informed that the patient is infectious when the request for transport is made to ensure appropriate control measures are taken.

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Within the community if EPUT staff are involved in the transfer then they should take on that role of the nurse in charge and ensure that the receiving ward and ambulance staff know the infection status of the patient.

- 2.3 The Infection Risk (on admission/transfer form) form is to be completed (**Appendix 1**) a copy must be retained on the unit or within the patients community notes.
- 2.4 Where patients are cared for within the community they should be advised by the Specialist TB nurses, but in general patients should refrain from activities where they mix closely with people for the first two weeks of their treatment. Activities to avoid would be attending church, using public transport attending college/school etc.
- 2.5 Contact tracing and screening, if required will be initiated by the Specialist TB nurses, with the support of the EPUT Infection Prevention and Control Team (IPCT) and other EPUT staff as required.

3.0 RESPONSIBILITIES FOR COMMUNICATION

- 3.1 **Nurse in charge of the ward/ responsible Community Practitioner** – should inform the IPCT and the Specialist TB Nurses, when a patient with suspected TB is admitted to the ward or identified on the caseload.
- 3.2 **Notifications for Communicable diseases such as TB must be made to Public Health England (PHE) – this is a statutory requirement. Notifications are now done electronically by the TB Nursing Service.** If possible, also telephone the Consultant for Communicable Disease Control (CCDC) to avoid delays in following up contacts. If the diagnosis is suspected but not proven, discuss with the Consultant Microbiologist or CCDC by telephone. Newly diagnosed TB patients should also be reviewed by a respiratory physician.
- 3.3 **PHE Infection Protection team** - report positive laboratory results to CCDC and ensure that the IPC team and Specialist TB Nurses are aware.

In the event of an Infectious case of TB on an open ward notify the IPC Team, Occupational Health and the TB Nursing Service. Ask ward managers to draw up a list of staff in close contact with patient (Regular carers for the patient, those having had prolonged (8 hours+) close contact, or carried out a high risk procedure – including resuscitation and suctioning.)
- 3.4 **Pharmacy** - All anti TB medication is prescribed by the hospitals.
- 3.5 **Specialist TB Nurses – (linked to local Acute Trust)** act as the lead for the infectious patient and provide the liaison with the PHE Infection Protection Team and other professionals involved.

4.0 INFECTIOUSNESS OF PATIENTS WITH TUBERCULOSIS

- 4.1 As a general principle, tuberculosis should be suspected in any patient with a cough without other cause lasting more than three weeks, with or without weight loss, anorexia, fever, night sweats or haemoptysis. They should be admitted to a single room until infectious tuberculosis has been excluded (by the analysis of sputum samples for the presence of mycobacteria) and/or they are transferred from EPUT's care. Barrier nursing, gowns and use of masks is not necessary unless Multi Drug Resistant TB is suspected or aerosol-generating procedures are being performed. Management guidelines will be advised by the IPC team and specialist TB nurses.
- 4.2 In the UK, infection is usually acquired by inhaling infective droplets coughed by a person with tuberculosis of the lung. An individual who is coughing up so many mycobacterium tuberculosis bacteria that they are visible by microscopy of a smear of sputum will be more infectious than an individual who is coughing up too few bacteria to be seen by microscopy. The bacteria seen on microscopy are referred to as 'acid fast bacilli' (AFB).
- 4.3 Patients with sputum smears positive for AFB are infectious to others and should be isolated into single rooms until they have been adequately treated. If Multi Drug resistant TB is suspected or patient admitted on to a ward with immuno-compromised patients, then a Negative Pressure Room is required. Any patient identified with MDR strain will need to move to a facility with a negative pressure room. Smear negative patients may also be infectious although less so than those with positive smears.
- 4.4 Patients with pulmonary TB are no longer infectious once they have completed two weeks of treatment, as long as compliance with the regime can be assured.
- 4.5 Patients with non-pulmonary TB normally present minimal or no risk of infection and should be managed using Standard Precautions.

5.0 RETROSPECTIVE DIAGNOSIS OF TUBERCULOSIS

- 5.1 Whether the infected person is a patient or a member of staff, contact tracing will be carried out by the relevant Specialist TB Nurses following formal notification. All suspected cases should also be notified to the PHE Infection Protection Team.
- 5.1.1 Staff cases must also be referred to Occupational Health.
- 5.2 **Patient contacts**
If a patient on a ward is diagnosed as having infectious tuberculosis, particularly after a delay of several days, other patients should have their exposure documented and their GPs and consultants informed. This will be co-ordinated by the Infection Prevention and Control Team (IPCT), PHE and the TB service.

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5.3 Staff contacts

Immuno-competent staff do not usually require follow up unless they were regular carers for the patient and thus had prolonged (8 hours+) close contact, or carried out a high risk procedure. The infection prevention nurse will provide the TB Specialist Nurse (and Occupational Health) with a list of staff contacts, which will be drawn up by the ward manager.

5.4 Remedial action taken is as follows:

1. Referral to Chest Clinic/TB Specialist Nurse if high risk of infection
2. Individual immunity checks
3. Written and verbal advice given
4. The offer of a check x-ray, approximately three months after exposure, for any staff who are unduly worried
5. To attend the Occupational Health Service or TB service during the interim period if they become symptomatic or concerned
6. If a concerned staff member attends the Occupational Health Service, the manager is written to.

6.0 DRUG TREATMENT

6.1 At least a six month, four drug initial regime should be used to treat active pulmonary TB in: (this is usually managed in the chest clinic under a respiratory physician)

- Adults – whether they are known to be HIV positive or not
- Children

6.2 The regime consists of 6 months of Isoniazid and Rifampicin supplemented in the first 2 months with Pyrazinamide and Ethambutol. This is referred to as 'Standard Treatment'.

6.3 Smear positive TB patients without risk factors for MDR TB can be taken out of isolation after they have completed 2 weeks of the standard treatment, have had 3 negative sputum smears or they are discharged from hospital.

6.4 Patients in mental health settings should be supervised while taking their medication. Non-compliance should be reported immediately to the clinician in charge of the patient, the TB nurse, the chest clinic and the infection protection nurse as drug omissions can quickly lead to the development of resistance with potential high risks of transmission of MDR TB to staff, other patients and visitors.

6.5 Directly Observed Therapy (DOT), if required, is usually carried out in the community setting to ensure that patients are compliant with the anti TB treatment regime. The Tuberculosis Nurse Specialist can give more information if a patient requires this therapy.

7.0 NON COMPLIANCE WITH TREATMENT

7.1 There are usually two main types of patients who do not comply with treatment, they are:

- Patients who have capacity to consent to treatment (as defined by the Mental Capacity Act section 3) but who refuse to comply with treatment for whatever reason may need to have compulsory admission and detention to hospital to ensure that they are closely monitored under sections 37 and 38 of the Public Health Act. Compulsory medical examination can also be required under section 35 of that Act. Compulsory treatment is not allowed under the Public Health Act.
- Patients who do not have capacity to consent to treatment as defined by the Mental Capacity Act, Section 3, can usually be treated, if necessary by admission to hospital i.e. if they lack capacity to consent and it is in their best interests that care and treatment should be given, and they are not actively resistant to the admission nor held in conditions that amount to a deprivation of liberty. Any such care and treatment must conform with the principles of the Mental Capacity Act and take account of the safeguards provided by that Act, such as the need to refer to an independent Mental Capacity Advocate in certain circumstances, or to consult with a Lasting Power of Attorney with health and welfare powers if one has been appointed.

7.2 In either situation the advice and guidance of the IPCT and the Specialist TB nurses should be sought along with the advice of the Consultant and Mental Health Act Office and the Safeguarding team.

8.0 REFERENCES

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