Guidelines for Tuberculosis Control in New Zealand 2010
Chapter 9: Tuberculosis Control in Correctional Facilities
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Summary

Correctional facilities or prisons are an important reservoir of tuberculosis (TB) infection in most parts of the world. In many countries, including New Zealand, there are reports of disproportionately high rates of TB disease in prisons.

These guidelines recommend that all inmates be screened for active TB disease on entry into a correctional facility.

Identification and treatment of cases of latent TB infection (LTBI) could be applied as a TB strategy in correctional facilities.

Directly observed therapy is essential for all treatment of LTBI or TB disease in correctional facilities.
1 Tuberculosis Rates and Risk Factors

Correctional facilities or prisons are an important reservoir of TB infection in most parts of the world, but particularly in countries that have a high incidence of TB.

Overcrowding, poor hygiene and inadequate ventilation may contribute to the spread of infection.

Factors common to the inmates of correctional facilities may predispose this population to TB infection and disease. These factors include:

- high representation of people from low socioeconomic backgrounds
- high rates of substance abuse
- underlying poor health or nutrition
- an over-representation of Māori and Pacific peoples, who have higher rates of TB.¹

Prison incarceration was linked to an outbreak of TB in the North Island in 1999.² The outbreak highlights the public health consequences of TB in this setting. Cases of MDR-TB from correctional facilities have not been reported in this country, but contribute a large proportion of cases in other countries.³,⁴
2 Screening of Inmates in Correctional Facilities

The purpose of screening is to identify people who have active TB disease, and sometimes also latent TB infection (LTBI). CDC and WHO guidelines recommend that all inmates be screened on entry into a correctional facility.\(^5,6\)

2.1 Recommended minimum process

Figure 2.1 shows a recommended minimum process for TB screening of inmates on their entry into correctional facilities, based on current practice in New Zealand, which is screening by symptom questionnaire, history and examination, looking for active TB disease cases only.

**Figure 2.1:** Recommended minimum TB screening of inmates on entry into correctional facilities

- **Symptom screening for TB***
  - Negative for symptoms: No further action
  - Positive for symptoms: Isolate inmate and evaluate for possible TB disease**

* Cough for more than three weeks, haemoptysis, fever, sweats.
** History, physical examination and chest X-ray.

2.2 Symptom and history inquiry

Inmates should be asked for symptoms of active tuberculosis including cough, fever and weight loss. Chronic cough is common in the prison population due to high rates of smoking.

History should include: active TB disease, family history of TB and other contact history. Any previous investigations of treatment for TB disease or LTBI should be documented.

2.3 Physical examination

A thorough medical examination should be undertaken if the history suggests possible TB disease.

2.4 Chest X-ray

A CXR should be requested, if the symptom inquiry is suspicious for possible TB disease or for those with a positive Mantoux test or IGRA. CXRs suggesting the possibility of TB should be discussed promptly with an appropriate hospital specialist, without awaiting results of sputum culture for TB.
2.5 Mantoux test or interferon gamma release assay (IGRA)

In the USA, all prison inmates with previously negative Mantoux or IGRA tests are screened for LTBI on entry to correctional facilities and then re-screened periodically, usually on an annual basis.5 Inmates with LTBI who are at high risk for development of active TB disease are offered LTBI treatment.

In New Zealand, prison inmates are not currently screened for LTBI, either on entry into correctional facilities or periodically. However, if screening for LTBI in inmates is considered in future, either a baseline two-step Mantoux test or IGRA (see Chapter 8) should be undertaken for all inmates entering long-term correctional facilities who do not have a documented history of a positive test. Testing may not be possible for short-stay inmates.

Mantoux or IGRA test results should be recorded in the inmate’s medical records and be accessible on any transfer. Positive tests should be highlighted in the inmate’s medical records, so that a high index of suspicion is always maintained for the development of active TB disease. If resources allow, inmates with LTBI who are at high risk for development of active TB disease should be offered LTBI treatment (see Chapter 8).
3 Treatment of TB Cases in Correctional Facilities

There is a higher rate of treatment failure in TB cases in correctional facilities. Short duration of incarceration and a high turnover rate in institutions are major factors.

Refer to the Ministry of Health’s *Tuberculosis Case Management in Prisoners*, which is a joint protocol for corrections facilities and TB treatment supervising services (usually the public health service in most regions of New Zealand, but occasionally the clinical TB service).

Successful treatment requires:
- directly observed therapy for all cases of TB
- close liaison between prison medical staff, specialists and public health authorities
- completion of treatment.

When prisoners are released into the community, appropriate transfer of responsibility must be made to the medical officer of health and District Health Board in the area where the patient will be residing.

The involvement of a probation officer or social worker may assist follow-up and completion of treatment.
4 Treatment of LTBI in Correctional Facilities

The identification and treatment of cases of LTBI is an important TB control strategy, see Chapter 8. However, adherence rates to courses of isoniazid are low in prisoners with LTBI and a minority continue with treatment after discharge. Adherence within a month of discharge has been as low as 3%. Regular education and incentives can improve follow-up rates when cases leave prison on isoniazid, although only regular education has been shown to improve the rate of completion of therapy.

However, for long-term inmates with LTBI who are at risk of developing TB disease, there is a good opportunity for effective treatment. It is recommended that directly observed therapy (DOT) be used for treating LTBI in prisons (see Chapter 4).

If screening for LTBI in inmates is considered in future, prisoners with LTBI who are at high risk of developing TB disease should be considered for treatment of LTBI. In this case, additional resources will probably be necessary for prison services to effectively screen for LTBI and to administer LTBI treatment.

The prison-related groups who should be targeted for treatment of LTBI are:

- the contacts of prisoners with sputum smear-positive pulmonary TB
- HIV-infected prisoners
- infants of imprisoned mothers with pulmonary TB.
5 Infection Control in Correctional Facilities

See Chapter 12, section 7, and the Ministry of Health’s *Tuberculosis Case Management in Prisoners*. An infectious TB case should immediately be transferred to a hospital with a negative-pressure isolation room (an airborne infection isolation room) until they have completed at least two weeks of appropriate anti-TB treatment.

All staff in correctional facilities should be familiar with the infection control policy for that institution. This policy should include how to access N95 particulate respirators should infectious TB be suspected in an inmate.
6 Occupational Health in Correctional Facilities

Health care workers (HCW) working in correctional facilities should undergo the same screening processes as HCW in health care settings (see Chapter 12, sections 6 and 7).
7 Contact Investigation in Correctional Facilities

The prison medical service should seek early guidance from the local public health office if a case of TB disease is diagnosed. Contact investigation is a specialised task (see Chapter 7), and contacts within the correctional facility will often be released before their investigation and definitive management is complete.
8 Tuberculosis Protocols

Protocols for screening and managing TB, including educating prison medical officers and other staff about TB, should be produced for all correctional facilities. If screening for LTBI in inmates is considered in future (see section 2.5), a suitable screening protocol should be produced.
References


