

Original articles

Control and prevention of tuberculosis in the United Kingdom: Code of Practice 1994

Joint Tuberculosis Committee of the British Thoracic Society*

Abstract

Background – The guidelines on control and prevention of tuberculosis in the United Kingdom have been reviewed and updated.

Methods – A subcommittee was appointed by the Joint Tuberculosis Committee (JTC). Each member of this group drafted one or more sections of the guidelines, and drafts were made available to all members of the group. In the course of several meetings drafts were altered and incorporated into a final text. The guidelines were approved by the full JTC and by the Standards of Care Committee of the British Thoracic Society. In revising the guidelines the authors took account of new published evidence and recent concerns about drug resistance and possible effects of HIV on tuberculosis.

Conclusions – (1) All cases of tuberculosis must be notified. (2) A few patients need hospital admission. (3) Patients with positive sputum smears and sensitive organisms should be considered infectious until they have received two weeks' chemotherapy. (4) Treatment of all tuberculosis patients should be supervised by a respiratory physician employing standard medication guidelines and monitoring compliance at least monthly. (5) Health care workers at risk should be protected by BCG vaccination and appropriate infection control measures, and evidence of infectious tuberculosis should be sought among prospective NHS staff, school teachers, and others. (6) Prison staff should be protected. (7) Tuberculosis should be considered in the elderly in long stay care with persistent chest symptoms. (8) Contact tracing should be vigorously pursued with chemoprophylaxis, BCG vaccination, or follow up where applicable. (9) Entrants to the UK from high risk countries (tuberculosis incidence more than 40/100 000 population per year) should be screened. (10) BCG vaccination should be offered where appropriate but not in subjects with known or suspected

HIV infection. (11) The local organisation of tuberculosis services should be strengthened and should include adequate nursing and support staff. (12) Contracts between purchasers and providers should specify management of tuberculosis in line with this and other JTC guidelines.

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In 1990 the Joint Tuberculosis Committee of the British Thoracic Society issued updated guidelines for the control and prevention of tuberculosis.¹ This revised Code of Practice takes account of new evidence in relation to contact tracing²⁻⁶ and control of tuberculosis in NHS hospital staff,⁷⁻¹⁰ and recent concerns about the emergence of drug-resistant disease and possible effects of HIV on tuberculosis. The relationship between HIV infection and tuberculosis is here considered only in relation to protection of NHS staff since other aspects of this relationship are covered in a recent report from this committee.¹¹

Notification

All forms of tuberculosis are statutorily notifiable (by the doctor making or suspecting the diagnosis) to the local "proper officer" – normally the Consultant in Communicable Disease Control in England and Wales, the equivalent in Northern Ireland, or the Director of Public Health/Consultant in Public Health (CDEH) in Scotland, from whom notification forms can be obtained. Detailed advice on notification is available.¹² The purpose of notification is twofold. Firstly, it provides data to monitor epidemiological trends. Secondly, and even more importantly, notification triggers contact tracing procedures. Local studies^{13,14} have recently reported significant under-notification of tuberculosis, including those cases recognised as most infectious. Failure to notify may mean failure to screen close contacts. Contacts eligible for chemoprophylaxis or BCG vaccination, as well as those with active disease, will then be denied specific intervention. Such circumstances could lead to an action for medical negligence. Various measures such as reporting by a pathologist¹⁵ or bacteriologist have been suggested to help ensure full coverage. These steps may need to be

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added in areas/districts where they are not already an integral part of the local notification arrangements.

Infectiousness and segregation of patients with tuberculosis

Patients with smear positive pulmonary disease – that is, with sufficient tubercle bacilli to be seen on direct sputum examination – should be regarded as infectious; those with smear negative (three sputum samples) or non-pulmonary disease need not. Patients whose bronchial washings are smear positive should not be regarded as infectious unless their sputum is also smear positive or becomes so after bronchoscopy. Patients with smear positive disease and fully sensitive organisms become non-infectious after two weeks of treatment with drugs including rifampicin and isoniazid and remain so if regular, adequate chemotherapy is continued, even though bacilli might still be seen

in sputum smears. The bacillary response to chemotherapy appears to be equally good in HIV positive and negative tuberculosis patients.¹⁶ It is not necessary to separate an infectious person on treatment from other household members.^{17 18}

Control of tuberculosis in hospitals

Most patients with tuberculosis can be treated at home; a few need hospital admission for severe illness, adverse effects of chemotherapy, or social reasons.

Patients with smear positive pulmonary tuberculosis should be segregated for two weeks after starting chemotherapy in a single room vented to the air outside the building and the door should be kept shut as much as possible. Ideally this room should be ventilated by a mechanical extract system, without recirculation, to a safe location. Barrier nursing is unnecessary; staff need not wear gowns and masks. Even more rigorous measures have been suggested, particularly for HIV units or for patients with multiple drug-resistant organisms.¹⁹ The appropriateness of these additional measures will be decided on risk assessment by individual units treating patients with HIV, those with multiple drug-resistant tuberculosis, or both. Marked crockery and separate washing up facilities are unnecessary, and no special precautions are needed for bed linen, books, etc. Sputum specimens should be transmitted in plastic bags and labelled “Bio-hazard”. Disposal of infected material should be by incineration. Fumigation of rooms that have housed patients with tuberculosis is unnecessary. The person who cleans the room is not at special risk, nor are other members of staff who attend the patient in a routine manner. Staff undertaking mouth-to-mouth resuscitation, prolonged care of a high dependency patient, or repeated chest physiotherapy should be managed as close contacts (see below). Only those, including small children, who have already been in close contact with the patient before diagnosis should be allowed to visit.

Adults with smear negative or non-pulmonary disease may be nursed in a general ward. If a patient in a general ward is diagnosed as having infectious tuberculosis, particularly after a delay of several days, other patients in the ward should have their exposure documented and their GPs and consultants should be advised. No other action is required unless patients are unusually susceptible to infection or the index case proves to be highly infectious, in which case appropriate contact examination should be undertaken (see below).

Babies born to mothers with infectious pulmonary tuberculosis should receive chemoprophylaxis for six weeks and then be tuberculin tested: if negative, BCG should be given; if positive, chemoprophylaxis should be continued. Such babies can be breast fed. Children with tuberculosis and their visitors should be segregated from the rest of the ward until the visitors have been screened to exclude them as the source of infection.²⁰

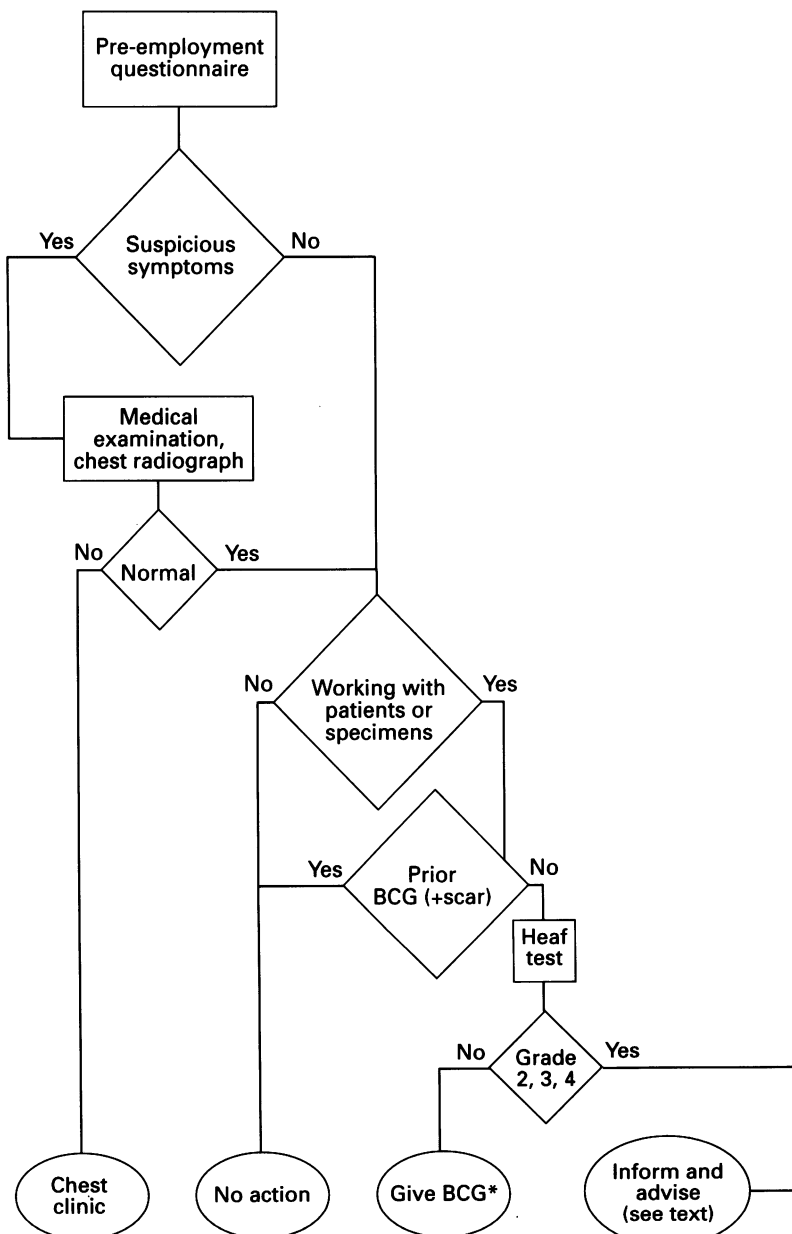






Figure 1 Protection of NHS staff: guidelines for Occupational Health Services. *Some units may prefer to repeat the Heaf test in older persons to detect a boosted reaction and avoid unnecessary BCG vaccination.

| <i>Heaf test grades</i> | | |
|-------------------------|--|---|
| <i>Grade</i> | <i>Reaction</i> | <i>Appearance</i> |
| Negative | No induration | |
| 1 | 4-6 papules |  |
| 2 | Confluent papules form indurated ring |  |
| 3 | Central filling to form disc |  |
| 4 | Disc >10 mm with or without blistering |  |

Protection against tuberculosis in health care workers

Staff at risk should be protected and measures taken to detect tuberculosis in new and existing staff in order to protect their patients (especially if these are children or immunocompromised individuals) and colleagues. The recommendations are summarised in fig 1. These measures update previous guidance from the Health Departments²¹⁻²³ and the British Thoracic Society.¹

STAFF AT RISK

All staff in regular contact with patients and laboratory workers handling specimens are at potential risk of contracting tuberculosis, with a higher risk in those who have regular contact with tuberculosis patients or laboratory specimens infected with tuberculosis. Evidence from the 1980s suggests that the incidence of tuberculosis in health care workers is now no greater than in the general population²⁴ with the possible exception of mortuary workers. However, the AIDS epidemic has led to an increased incidence of tuberculosis in immunocompromised patients, and this may put staff at higher risk of contracting the disease.

Staff protection begins with pre-employment screening and on-employment measures. It also includes the adoption of safe practices for patient care and methods of detecting possible tuberculous infection in staff at an early stage. Pre-employment and on-employment measures include recording any symptoms of tuberculosis, details of previous BCG vaccination and the presence or absence of a BCG scar, and tuberculin skin testing and chest radiography where indicated.

A tuberculin skin test (preferably the Heaf test, table) is only necessary in new employees who do not have a definite BCG scar; virtually

all those with a BCG scar have a positive skin test even after many years.¹⁰ Individuals with a negative or grade 1 Heaf reaction should receive BCG vaccination and the site should be inspected six weeks later. Those without a satisfactory reaction require a further tuberculin test and, if this is negative, a second vaccination. If BCG is refused, the risks should be explained and the refusal recorded.

Recent evidence confirms that strongly positive tuberculin skin reactions are common in asymptomatic health care workers and do not indicate active tuberculosis.⁷⁻⁹ The requirement for chest radiography should not be based on the tuberculin skin reaction alone, but rather on the presence of symptoms after careful enquiry.²⁵ If the chest radiograph is abnormal, with features that require further investigation, the individual should be referred to a chest physician. If the clinical and chest radiographic examinations reveal no evidence of tuberculosis, then subsequent pre-employment management should follow that for asymptomatic individuals (fig 1).

In general, asymptomatic individuals with grade 2, 3, or 4 positive Heaf tests should be advised that they may have encountered the tubercle bacillus in the past, do not require BCG vaccination, and should report any future suspicious symptoms. However, when such an individual comes from a country where tuberculosis is common (as defined below in the section on "Screening of immigrants"), chest radiography should be undertaken.

Routine periodic chest radiography is not necessary for any group of NHS staff and is not effective in early detection of tuberculosis.²⁴ It is very uncommon for hospital staff to acquire tuberculosis from patients.²⁶ Staff concerned about contact with a case of smear positive tuberculosis should be reassured and reminded of the possible symptoms of tuberculosis and the importance of reporting such symptoms promptly. Special arrangements may be advisable for mortuary staff, such as annual reminders as to the symptoms of tuberculosis and early notification of sickness absences to the Occupational Health Department.

MEDICAL AND NURSING STUDENTS, LOCUM DOCTORS, AGENCY STAFF, AND CONTRACT ANCILLARY WORKERS

The measures described above apply. Locum agencies should preferably undertake suitable pre-employment screening themselves so that locums can provide evidence of this.

HIV AND PROTECTION OF HEALTH CARE STAFF AGAINST TUBERCULOSIS

HIV infection is relevant both to staff immunisation and to the risk of staff contracting tuberculosis in their work. It is recommended in the UK that BCG vaccination should not be given to any individual known or suspected to be infected with HIV.²⁷ Screening for HIV infection before BCG vaccination of new staff is not appropriate, but routine enquiries should include questions to determine if the individual

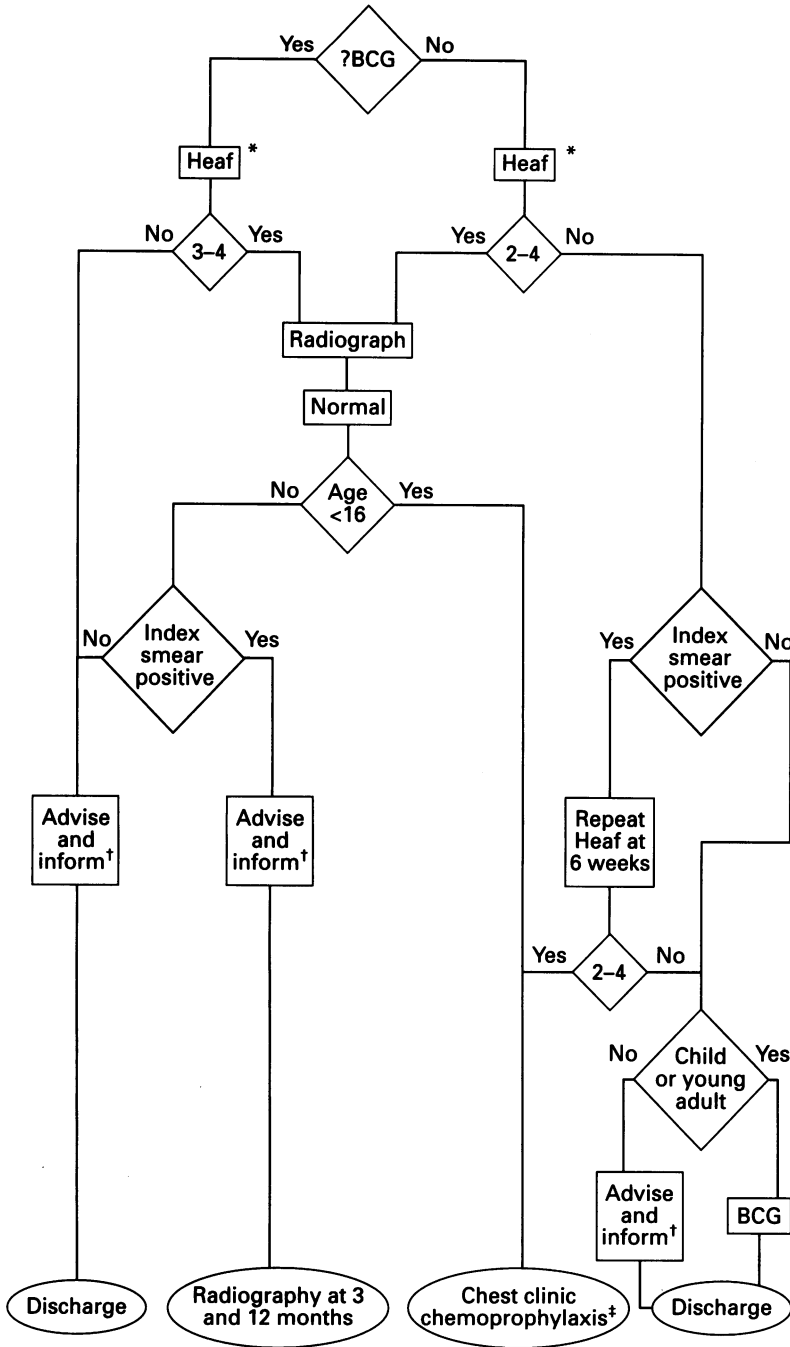


Figure 2 Examination of close contacts of pulmonary tuberculosis. Contacts of non-pulmonary tuberculosis need not usually be examined (see text). Note: children under two who have not had BCG vaccination and who are close contacts of a smear positive adult index patient should receive chemoprophylaxis irrespective of tuberculin status (plus BCG vaccination later if applicable). *Negative test in immunosuppressed subjects does not exclude tuberculous infection. †Advise patient of tuberculosis symptoms, inform GP of contact. ‡Persons eligible for, but not given, chemoprophylaxis should have a chest radiograph at three and 12 months.

is at risk of being immunocompromised. Staff should be encouraged to report HIV infection to the Occupational Health Department so that they can receive advice about any modifications to their work that may be required.²⁸ As they become immunocompromised, HIV infected staff are at increased risk of infections contracted at work and they should be offered a move away from work with a high risk of infection, such as on wards with numerous patients with tuberculosis or laboratory work with known tuberculous material.

Recent reports from the USA have described a risk to staff of contracting tuberculous infection, including multidrug-resistant strains,

from patients with HIV infection.^{29,30} As well as checking staff protection on employment, proper infection control measures are important. These include isolation of infectious patients, as previously described, and minimal staff presence with adequate ventilation during activities likely to induce coughing such as inhaling pentamidine, sputum induction, and bronchoscopy.¹⁹

Tuberculosis in prisons

Tuberculosis is not common in HM prisons. Even in the era of HIV infection no episodes of transmission of tuberculosis within prison have been recorded in the UK.^{31,32} Most prisoners (96%) are aged under 50 years.³² They, and most prison officers, should have been protected by BCG vaccination. New staff should be screened as for at-risk health care workers (fig 1) and offered BCG vaccination if tuberculin negative. A high index of suspicion for tuberculosis should be maintained in all prisons with early bacteriological and radiological investigation followed by directly observed chemotherapy supervised by a chest physician. Smear positive prisoners should be segregated as for smear positive hospital in-patients. Notification of cases is essential to enable contact tracing. Routine radiological screening of prison populations is unnecessary.

Other groups working with patients or prisoners

Probation officers, police officers, community workers, and volunteers who work with patients and prisoners are not normally at risk. Individuals who are at higher risk deemed to be similar to health care workers with clinical contact should be offered similar protection. Volunteers should not normally be required to carry out duties that expose them to infectious cases. Contact with undiagnosed infectious tuberculosis should be covered by normal contact procedures.

The elderly in long stay care

The elderly in nursing homes are at risk of endogenous reactivation of tuberculosis as well as exogenous reinfection.³³ Although outbreaks of tuberculosis have been reported in nursing homes in the USA,³³⁻³⁶ recent evidence suggests that the risks are much less in the UK.³⁷ New admissions to nursing homes should all be considered candidates for reactivation tuberculosis. Any evidence that a patient has had tuberculosis in the past should be noted on admission. Residents developing symptoms suggestive of tuberculosis ("bronchitis" or "pneumonia" not responding to antibiotics) should be investigated microbiologically and, where indicated, radiologically for tuberculosis.³⁸

Schoolteachers and others working with children

The important consideration in this group is the detection of active pulmonary tuberculosis

by medical examination and appropriate investigation of those about whom there is any suspicion on the pre-employment health questionnaire or at any time thereafter.

Contact tracing procedures

Recent studies²⁻⁶ show that up to 10% of tuberculosis cases are diagnosed by contact tracing, that disease occurs in about 1% of all contacts, and that it is usually found at the first clinic visit in unvaccinated close contacts of smear positive disease. The recommended procedures are shown in fig 2.

PULMONARY DISEASE

Close contacts

People, particularly small children, sharing a house with someone who is smear positive are at most risk. Household contacts of someone who is smear negative run a lower risk but should be examined in case they prove to be a source case. Occasionally a contact at work or in a hospital ward is close enough to be equivalent to a household contact.

Casual contacts

These include most occupational contacts. If the index case is smear negative, casual contacts need not be examined. If the index case is smear positive, casual contacts need only be examined if they are unusually susceptible – for example, young children or immunocompromised adults – or if the index case is thought to be highly infectious as evidenced by transmission to more than 10% of close contacts.³⁹

NON-PULMONARY DISEASE

The incidence of tuberculosis among close contacts generally reflects the background incidence in the relevant population subgroup. If the index case is considered to have been recently infected – for example, a child – contact tracing may identify a source or secondary cases and is therefore recommended.

EXAMINATION OF CONTACTS

Investigation of contacts (fig 2) may include inquiry into BCG vaccination status, Heaf testing, and chest radiography. If the index case is smear positive, contacts who have not had BCG vaccination and who have a negative or grade 1 positive Heaf reaction should ideally be retested two months after the last contact to allow time for tuberculin conversion. If retesting is not practicable, BCG vaccination should be given after the first negative Heaf test; chemoprophylaxis may also be given in children under five years of age.

MANAGEMENT

BCG vaccination

Previously unvaccinated children and young adult contacts who are persistently Heaf test negative or grade 1 positive are offered BCG vaccination.

Chemoprophylaxis

Chemoprophylaxis may be given to some contacts with strongly positive Heaf test reactions but no clinical or radiological evidence of tuberculous disease. The risk of developing disease after infection depends on age, BCG status, and whether infection is recent. Chemoprophylaxis should therefore be given to contacts under the age of 16 years who have not had BCG vaccination and who have positive Heaf test reactions (grades 2–4), and to all those in whom recent tuberculin conversion has been noted (details of drug regimens for chemoprophylaxis are given elsewhere⁴⁰). In addition, children under two years who are close contacts of smear positive cases and who have not had BCG vaccination should receive chemoprophylaxis irrespective of their tuberculin status, followed by BCG vaccination, where appropriate, at the completion of chemoprophylaxis.

Follow up

Most disease in contacts is found at initial examination. Those without findings of disease on initial screening should be advised to report suspicious symptoms to their general practitioner who should also be informed of the history of contact with tuberculosis. Routine radiographic follow up at three and 12 months is recommended for asymptomatic contacts who were eligible for, but did not receive, chemoprophylaxis, and for those with strongly positive Heaf tests (grades 3 or 4, or grade 2 with no previous BCG vaccination) after close contact with smear positive cases. The yield from radiographic follow up is small and varies

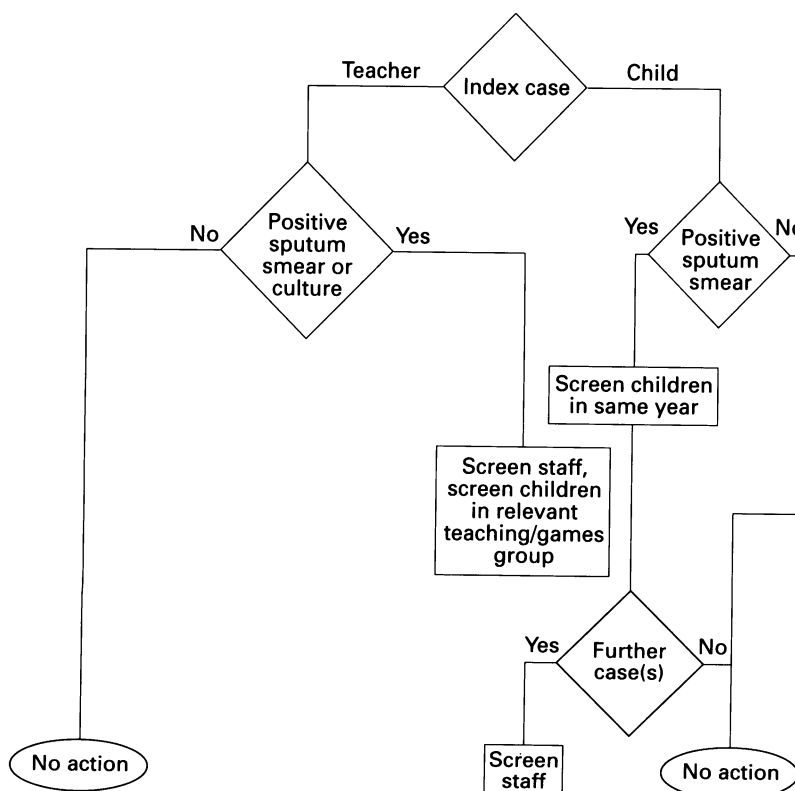


Figure 3 Tuberculosis in schools: whom to screen.

between districts²⁻⁶; in some areas local audit may show that it is unnecessary.²³⁴¹

Tuberculosis in schools

If the index case is a teacher, contact procedures are required if the sputum is smear positive or, to be extra safe, culture positive (fig 3). Children with tuberculosis, even if smear positive, are rarely a source of infection but, if the index child is smear positive, all children in the same year should be screened (fig 3). Child contacts who have not had BCG vaccination should ideally have a second tuberculin test two months after the last contact, especially in a primary school, but in practice a single later test may be the better compromise.

In child contacts who have not had BCG vaccination tuberculin reactors (Heaf grades 2-4) should be referred for clinical examination and chest radiography and should have chemoprophylaxis if there is no evidence of disease (fig 2). No action is required in child contacts who have good documentary or scar evidence of previous BCG vaccination. Tuberculin converters (Heaf 0-1 to 2-4 with minimum of two increases in grade) who have no clinical or chest radiographic evidence of disease should receive chemoprophylaxis.

Screening of immigrants

The incidence of tuberculosis is high among many immigrant groups in the UK. In 1988 the crude incidence in indigenous white residents of England per 100 000 population was 4.7, compared with 135 in Indians, 101 in Pakistani/Bangladeshis, and 29 in Afro-Caribbeans.⁴² The incidence is considerably increased in the first few years after first entry into the UK,⁴³ and also after subsequent return visits to countries with a high prevalence of tuberculosis.⁴⁴ Screening of new immigrants is therefore recommended, not only to detect active tuberculosis, but also to identify infected subjects who may require chemoprophylaxis and uninfected subjects who might benefit from BCG vaccination.⁴⁵

GROUPS TO BE SCREENED

All immigrants (or other entrants planning to stay longer than six months) from Asia, Africa, South and Central America (including the Caribbean), and other countries where tuberculosis is common, should be screened. The World Health Organisation has estimated the incidence of tuberculosis in different countries.⁴⁶ An incidence of 40 per 100 000 population per year is suggested as an arbitrary but reasonable level above which tuberculosis might be considered "common". In addition, all refugees should be screened.

PROCEDURES AT PORT OF ENTRY

Most tuberculous disease in immigrants develops after arrival in the UK and is not evident on admission. Whilst some initial screening occurs, it is neither comprehensive⁴⁵ nor very

effective in informing districts.⁴⁷ It is vital that information on all new immigrants is passed to the Consultant in Communicable Disease Control, or equivalent in the district of intended residence, so that comprehensive screening can be arranged.

PROCEDURES AT IMMIGRANT'S INTENDED

DISTRICT OF RESIDENCE

Health authorities should endeavour to identify all new immigrants, not only for tuberculosis screening, but also for other relevant health promotion and disease prevention measures. Methods in addition to the current port of entry forms⁴⁸ should be used – for example, through family health service authority records, applications to register with a general practitioner,⁴⁵ records of new entrants to local schools, and informal contacts with local immigrant voluntary and statutory agencies.

Screening consists of an interview about health status including current symptoms, previous tuberculosis, and previous BCG vaccination. Tuberculin testing, preferably by Heaf testing (table), should be limited to those without a definite BCG scar. Screening and tuberculin testing should be carried out in the home or at a community hospital clinic at the convenience of the new immigrant. Consultation with local immigrant groups about these arrangements is advisable.

Individuals with symptoms suggestive of tuberculosis, and asymptomatic immigrants with strongly positive tuberculin tests (Heaf grades 3 or 4; 2, 3, or 4 in children under 16 years), should be referred to a chest clinic for clinical and radiographic examination. BCG vaccination should be offered to tuberculin negative children and young adults who have not previously received BCG. Chemoprophylaxis should be given to children under 16 years (Heaf grade 2 or more) and considered in young adults with grade 3-4 Heaf positive tests. If chemoprophylaxis is not given, the patient and general practitioner should be advised of the need to report suspicious symptoms. The same advice should be given to older adults with strongly positive tuberculin tests.

BCG vaccination

BCG vaccination is recommended by the Departments of Health²⁷ for the infants and children, wherever born, of immigrants from countries with a high prevalence of tuberculosis. Neonates and infants up to the age of three months who have had no known contact with tuberculosis may be offered BCG vaccination without prior tuberculin testing. Older infants and children should undergo tuberculin testing before BCG vaccination. School entry is an opportunity to offer BCG vaccination to children in this group who have previously been missed.

The Health Departments recommend that BCG vaccination should be routinely offered in schools to all children aged 10-14 years.²⁷ It was thought at one time that the schools' BCG programme might be stopped at the end of the

1980s⁴⁹ but, because of the rise in tuberculosis notifications since 1987 and uncertainty about the degree of interaction between tuberculosis and HIV infection in the UK, the schools' programme should continue and its future will be reviewed in 1995 when detailed epidemiological information from the 1993 national notification surveys is available. Whatever the ultimate decision on the schools' programme, BCG vaccination of certain high risk groups will continue to be advised – that is, health care workers at risk, young tuberculin negative contacts, tuberculin negative immigrants from countries where tuberculosis is common, and infants in high prevalence ethnic groups.

Neonatal BCG vaccination is effective^{50,51} and can be given by intradermal injection or by the percutaneous method²⁷ recently approved for neonates and infants.

Because of the risk of generalised BCG infection, BCG vaccination should not be given to individuals known to be HIV positive in the UK.¹¹ When HIV infection is suspected in infants or in tuberculin negative contacts of tuberculosis, HIV testing should be undertaken and BCG vaccination only given in those confirmed to be HIV negative.

In the schools' BCG programme tuberculin testing is not necessary in those with a definite BCG scar. In children who are tested, those with Heaf grades 0–1 should be vaccinated, no action is required for those with Heaf grade 2,⁵² and those with Heaf grades 3 and 4 should be referred for clinical and radiographic examination. If these are normal, chemoprophylaxis is recommended for those with a history of contact with infectious tuberculosis or residence in a high prevalence area within the preceding two years, and should be considered for others in high risk groups.

Treatment and compliance

The Joint Tuberculosis Committee published detailed guidelines on the chemotherapy and management of tuberculosis in 1990.⁴⁰ A number of studies^{53–55} have clearly shown that, when treatment is not supervised by respiratory physicians, prescription errors and excessive or inadequate treatment occur in an appreciable proportion of patients. It is therefore recommended that all adult respiratory tuberculosis should be supervised by the respiratory service, and that chemotherapy of all forms of non-respiratory tuberculosis should, at the very least, be supervised in conjunction with a respiratory physician. The management of children should be shared by a paediatrician and the respiratory service.

Poor compliance is the main cause of relapse.⁵⁶ Follow up in national surveys has shown inadequate compliance in up to 10% of patients.⁵⁷ Those patients felt likely to be non-compliant, or those shown to be so, should be treated with a fully supervised twice or three times weekly regimen,⁴⁰ either in hospital or in the community, depending on individual circumstances. The role of tuberculosis health

visitors and clinic nurses in monitoring compliance is vital. All patients on treatment or chemoprophylaxis should have compliance checked at least monthly throughout treatment, with monitoring by pill counts, prescription checks, and random urine tests for rifampicin as appropriate. Tuberculosis health visitor/nurse staffing levels must be sufficient for this monitoring, together with contact tracing and new immigrant screening.⁵⁸

Drug resistance

A recent analysis of trends in drug resistance over the past 10 years⁵⁹ and serial notification surveys^{42,43} show no rise in initial drug resistance in England and Wales. The rate of initial resistance to isoniazid remains low,⁴² whilst resistance rates to the other first line drugs – rifampicin, pyrazinamide and ethambutol – are very much lower still.⁵⁹ Resistance to streptomycin is more common,^{42,43} but this is not important in the UK where streptomycin is not a first line drug. Unlike the situation in the USA,⁶⁰ multiple drug resistance is uncommon in the UK.⁵⁹ To ensure that overall drug resistance rates remain low, recognised treatment guidelines should be followed.⁴⁰ These guidelines also give detailed advice on the management of patients with drug-resistant disease, who should be treated by respiratory physicians experienced in such cases and in liaison with the microbiological services.

Organisation of tuberculosis services

The responsibility for the screening of contacts rests, in Scotland, with the Director of Public Health/Consultant in Public Health (CDEH) and, in England and Wales, with the local Consultant in Communicable Disease Control, but there must be close involvement with the local respiratory services. There should be an agreed integrated policy which covers arrangements for contact tracing, follow up and compliance testing of patients, new immigrant screening, and contingency plans in the event of an outbreak. Each policy should identify a consultant, preferably a respiratory physician, to whom staff concerned should be accountable for clinical matters. Such policies require adequate levels of support from clerical staff and trained tuberculosis health visitors/nurses. The Joint Tuberculosis Committee has recommended that the minimum level is one full time equivalent health visitor/nurse for every 50 notifications per annum, with full clerical support.⁵⁸

The statutory responsibility for the protection of NHS employees rests with trust boards or district health authorities (health boards in Scotland), and should be discharged through their occupational health services.

Purchasers and providers should agree contracts for the control and treatment of tuberculosis in accordance with this Code of Practice and the recommendations on chemotherapy and management of cases.⁴⁰

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