

# **The Newcastle upon Tyne Hospitals NHS Foundation Trust**

## **Immunisation for Trust Staff and Protection against Infectious Disease Policy**

Effective: December 2010

Review: December 2013

### **1. Introduction**

For their own protection and that of their patients, NHS staff who come into regular contact with patients or their relatives are offered immunisation against certain infectious diseases and screening for tuberculosis.

It is essential for this policy to be effective that measures be applied to people who are not NHS employees but who come into contact with patients. This includes medical and dental students, research workers and some voluntary personal.

The range of screening and immunisations offered will depend on the extent of contact with patients, their relatives, or clinical material obtained from patients, and the area of the hospital in which the individual is employed.

The policy will be reviewed in 3 years' time.

### **2. Tuberculosis**

The section should be read in conjunction with the Trust policy 'Prevention and Control of Tuberculosis in Newcastle hospitals'. See also the flow chart attached to this policy (Figure 1).

All staff who are in regular contact with patients, and laboratory workers handling clinical specimens, are at risk of contracting tuberculosis. This risk is increased if staff have regular contact with patients or specimens infected with tuberculosis. However, epidemiological evidence suggests that, apart from mortuary workers, the incidence of tuberculosis in health care workers may be no greater than in the general populations.

Staff taking up employment in the NHS, transferring to Newcastle from another part of the country, or undertaking elective placements, will complete a pre-employment questionnaire in which specific questions will be asked for symptoms possibly indicative of tuberculosis. These include cough, sputum production, haemoptysis, and weight loss. They will also be asked about any close contact with a known case of tuberculosis.

Staff who neither have any suspicious symptoms nor a history of a recent close contact with a case of tuberculosis, and who will not be working with or have limited contact with patients or clinical specimens will be asked for evidence of BCG vaccination. This would consist of one of the following:

- documented evidence of previous BCG immunisation
- or a history of immunisation plus BCG scar

- or a history of immunisation without a BCG scar but with a documented positive Heaf test of grade 2 or more (or a positive Mantoux test with 6-15mm of induration) within the last five years

No further action is required if the above criteria are satisfied. Otherwise a Mantoux test will be performed and a BCG vaccination offered when the test result shows induration of less than 5mm. If BCG is given, there is no need to inspect the site of vaccination at a later date for the presence of a scar, and repeat Mantoux testing and repeat BCG immunisations are unnecessary.

It should be remembered that the period between immunisations and scar development, the staff member will not be fully protected against tuberculosis. The activities of the staff member during this period should be reviewed by Occupational Health and the infection control team to assess the potential risk to the staff member and to patients.

If a member of staff refuses to have a BCG or cannot be immunised for other reasons, this fact should be recorded and the risks explained to him/her. Such workers in mortuaries and in high 'patient risk' areas, e.g. paediatric, neonatal, and maternity units, respiratory medicine wards, and those units treating immunocompromised patients have a risk assessment carried out by an OHP in respect of working in?

Asymptomatic staff who have Mantoux test results with an area of induration of 6mm or more should **not** be automatically referred for a chest x-ray, with one exception (see below). Such staff should be advised that they may have encountered tuberculosis in the past and that they do not need a BCG vaccination. They should be advised to report suspicious symptoms should they arise in the future. However, staff coming to work in the UK from countries with a high incidence of tuberculosis should be referred to the chest clinic for clinical examination and chest X-ray, even if they are asymptomatic, if their Mantoux test result shows an area of induration of 15mm or more.

For practical purposes, all countries should be considered to have a high incidence of tuberculosis **except** the following:

- member states of European Union
- Canada
- United States
- Australia
- New Zealand

All staff who have suspicious symptoms should be medically examined and a chest x-ray should be performed. Any relevant abnormal findings should lead to the member of staff being referred to a chest physician

### 3. Rubella

All health care staff, both male and female, should be screened for immunity to rubella if they are unable to provide documentary evidence of 2 doses of rubella

containing vaccine. Those who are susceptible should be immunised with rubella vaccine.

#### **4. Diphtheria**

- 4.1 The vaccine is only available combined with other vaccines and for adults the Department of Health recommends the combined tetanus-diphtheria-activated polio product containing low-dose diphtheria vaccine (Td/IPV).

Diphtheria immunisation is recommended for staff who come into contact with infected patients or with clinical material which may contain the organism. This mainly applies to staff working in infectious diseases units and in microbiology laboratories.

Staff who fall into the above categories and who have never been immunised should receive a course of three doses of a vaccine at monthly intervals. The response to immunisation should be checked at least three months after completion of immunisation, and staff should receive a booster dose at five years, then at every ten years, following the primary course.

Staff who have previously been immunised should be given a booster dose at the time of first employment. The response to immunisation should be checked at least three months after this dose, and staff should receive booster doses at 10 year intervals thereafter.

- 4.2 Other staff may also require immunisation (either a full course or a booster does, depending on their immunisation history) if they come into contact with a case of diphtheria during the course of their work.

#### **5. Tetanus**

- 5.1 As with diphtheria, this vaccine is only available combined with other vaccines and the Department of Health recommends the combined tetanus-diphtheria-inactivated polio product (Td/IPV)

- 5.2 Most NHS staff are at no greater risk of tetanus than members of the general public, but tetanus immunisation should be encouraged for all staff as a general principle. This is especially desirable for gardeners and estates department staff where the risk of contaminated minor wounds is greatest. After the basic course of three doses, two booster does should be given, the first at 10 years following the basic course, and the second 10 years later. Further booster doses should not be given except in the case of injury, or impending travel to a developing country, when a further dose may be appropriate.

#### **6. Poliomyelitis**

- 6.1 Inactivated polio vaccine is now recommended for routine use and is only available combined with tetanus and diphtheria vaccines; the low-dose diphtheria preparation is required for adults (Td/IPV).

6.2 A standard course of vaccine (three doses at monthly intervals) should be given to all staff who have not been immunised against poliomyelitis. A booster dose should be given at five years after primary immunisation, and another 10 years later. For previously immunised staff, a booster dose should be given at the time of first employment if they have never received one and provided they completed the primary course at least five years previously. Staff who have already had one booster should receive a second 10 years after the first. Further booster doses are usually unnecessary as five doses at appropriate intervals are considered to give long-term protection.

## 7. Typhoid

7.1 Immunisation is unnecessary except for staff likely to be exposed to infection, i.e. microbiology laboratory workers, staff of the infectious diseases unit, and staff travelling to work in third-world countries.

7.2 Staff should be offer 1 dose of the Vi antigen vaccine rather than the older whole cell vaccine. Immunisation should be repeated at three yearly intervals for those staff who remain exposed to infection (see above).

## 8. Varicella

8.1 **All** staff should be question about past infection with varicella as part of the pre-employment medical assessment. Those who are UK born with a good history of chickenpox or shingles can be considered immune to varicella. Those who do not have such a history or were born outside of the UK should be checked for antibodies to varicella and informed of the result; in the vast majority of cases, they will be found to be immune.

8.2 Those found to be susceptible offered immunisation against varicella, provided immunisation is not contra-indicated in that individual:

- staff routinely working with immunocompromised patients
- staff in the adult and paediatric infection diseases units
- and staff routinely working with neonates

Contra-indications to the vaccine include pregnancy, immunosuppression due to disease or treatment, and previous hypersensitivity reactions to the vaccine.

8.3 People immunised with this vaccine may develop a varicella-like rash following the first or second dose. All such rashes **must** be reported to Occupational Health. If the rash is generalised, then the staff member should be excluded from work until all lesions are crusted over and no new lesions are appearing. Localised rashes may be kept covered and the staff member allowed to continue working, but if the staff member works with immunocompromised patients, or paediatric patients his/her status should be reviewed by Occupational Health and infection control on an individual basis.

## **9. Influenza**

Influenza immunisation should be offered to all Trust staff who carry out direct patient care. Staff should be encouraged to receive influenza vaccination. The reasons for this are:

- the protection of staff who may come into contact with patients with influenza
- to reduce the spread of influenza within the Trust
- and to reduce the impact on service provision of outbreaks of influenza

Immunisation will be organised annually by the Trust Occupational Health Department.

## **10. Meningococcal infection**

Immunisation against meningococcal infection is not normally indicated for health service staff in the UK. It may be indicated in staff intending to work in a developing country, and (rarely) following exposure to a case of meningococcal disease. In the latter case the decision to offer immunisation would normally follow discussion with the local Health Protection Unit.

## **11. Hepatitis B**

This section should be read in conjunction with the Trust policies for the management of patients with blood-borne virus infections and guidelines for needlestick injuries, and for the management of healthcare workers infected with hepatitis B/C or HIV.

11.1 Health care workers, including students and trainees, who have direct contact with patients' blood or blood-stained body fluids or with patients' tissue, are at increased risk of hepatitis B infection. All other NHS staff, for example those working in catering and administration, do not have a risk greater than that of the general population. Conversely however, patients may acquire hepatitis B from an infected health care worker who performs 'invasive' (or 'exposure – prone') procedures on patients.

11.2 In the health care setting, transmission of hepatitis B, and other blood-borne virus infection, most commonly occurs after a needlestick or other sharp injury with exposure to blood or body fluids. It may also follow exposure of mucous membranes, including the eyes or mouth, or exposure of broken skin, or bites that break the skin.

## **12. Protection by good clinical practice**

12.1 Protection against infection depends on the avoidance of direct contact with blood and other body fluids. Good clinical practice involving standard control of infection procedures should be applied to the care of all patients and to the disposal of all clinical waste.

- 12.2 It is the responsibility of managers, in conjunction with the occupational health department, to ensure that all staff have read and have ready access to Trust control of infection policies. Managers must ensure that new employees receive the appropriate level of training on commencement of employment. It is the responsibility of managers to inform the occupational health department on the employment or movement of staff (on a permanent basis) into high risk areas.
- 12.3 Protection of patients depends on the immunisation of staff, and serological testing on non-responders to immunisation in health care workers who perform exposure-prone procedures. This is to detect staff members who may already be infected with hepatitis B prior to immunisation and thus at risk of transmitting the infection of patients.

### **13. Protection by immunisation**

Protection of staff at risk can be increased by active immunisation. However, immunisation is only one aspect of an overall strategy for protection against hepatitis B and staff who have been immunised must continue good clinical practice involving standard control of infection procedures.

Health care staff working in the following categories are likely to have a higher risk of contracting hepatitis B than other health care workers:

- staff working in clinical or laboratory areas where there is an increased risk of contact with hepatitis B positive patients or their body fluids
- staff at risk of frequent or extensive blood and body fluid contamination (particularly in emergency situations), or at high risk of inoculation injury

Staff currently employed within or commencing employment in these higher risk categories will be offered immunisation. However, it should be remembered that many other staff, such as portering and domestic staff, are also at risk because they may come into contact with contaminated sharp objects, clinical waste, etc. The occupational health department should assess the need for the immunisation of the other staff members on an individual basis.

### **14. Role of the Occupational Health Department**

14.1 Immunisation will be provided by the occupational health department. The Occupational Health Service will run a call and recall system to provide immunisation. The system will:

- (a) Call all staff in the above categories for immunisation, including booster immunisation, and further testing where appropriate, in accordance with current Department of Health guidance.
- (b) Record details of any relevant antibody status and **communicate the result to the employee.**

- (c) For staff who are to perform exposure-prone procedures and who have not yet been immunised, or immunisation is not complete, tests of current infection (HBsAg) should be carried out before the staff member is found to be HBsAg-positive is given in the Trust policy. 'The management of Health Care Workers infected with Human Immunodeficiency Virus (HIV) and hepatitis C and for the prevention and management of hepatitis B infection' which is available on the Trust intranet.
- (d) Blood samples taken from health care workers who performed exposure-prone procedures, for the purpose of testing for current hepatitis B infection or response to vaccine should be taken directly by the occupational health department or by a person commissioned to do so by the occupational health department. These blood samples should not be used for testing for the presence of any blood-borne virus and staff members should be assured of this.
- (e) Record any exposure incidents.
- (f) Record any details of refusal of immunisation or consent to be tested for markers of hepatitis B infection.

14.2 Staff to be offered immunisation should receive a letter of invitation from the occupational health department. This invitation should contain a provisional appointment to attend the department and an information leaflet should be enclosed. If an employee fails to attend the appointment, the occupational health department should advise the staff member's supervisor. The supervisor should discuss the matter with the employee and advise the occupational health department in writing of the reasons for non-attendance.

## **15. Management of staff who are vaccine non-responders**

15.1 Hepatitis B vaccine non-responders should be counselled by a senior member of staff in the occupational health department. Vaccine non-responders who perform exposure-prone procedures should be tested, with informed consent, for evidence of hepatitis B infection. Staff found to be infected with hepatitis B should be managed according to current Department of Health guidance. Staff who are found not to be infected with hepatitis B should be given further counselling which should include a risk assessment and consideration of ways in which the potential risk of acquiring hepatitis B may be reduced. The importance of following Trust policy on the management of needlestick injuries should be highlighted, and staff should undergo annual testing for HBsAg and HBcAb to determine whether they have acquired hepatitis B.

15.2 Vaccine non-responders who do not perform exposure-prone procedures should be counselled by a senior member of staff in the occupational health department about possible reasons for their vaccine non-response, as well as further vaccination, and possible further investigation or referral for follow up.

## 16. Monitoring

Compliance will be monitored by the Deputy Lead Nurse Manager of Occupational Health. Monthly recall of staff requiring vaccination will be performed. Reports will then be presented to the Trust board in respect of any compliance issues. Line managers of high risk areas of staff's vaccination status to ensure safe service delivery.

Author: Lead Nurse Manager, Occupational Health and Wellbeing Service

## References

These recommendations are based on national guidance including:

- DHSS Health Circular HC(84)4, Vaccination and Immunisation Policy for NHS Staff
- EL(90)174, Control of Tuberculosis in NHS Employees
- Control and prevention of tuberculosis in the United Kingdom: Code of Practice 2000. *Thorax* 2000; **55**: 887-901.
- HSG(93)40, Protecting Health Care Workers and Patients from Hepatitis B
- EL(96)51, Recommendations for the prevention and control of tuberculosis at local level
- EL(96)77, Addendum to HSG(93) 40
- Immunisation against infectious disease 1996 (the 'Green Book'), HMSI, UK Health Departments
- Updates to the Green Book are available on the department of Health web site: <http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/GreenBookGreenBookGeneralInformation/GreenBookGeneralArticle/fsen?CONTENTID=4097254&CHK=isTfGX>

If in doubt please contact a member of the occupational health department or the infection control team for your hospital.

**THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION TRUST**  
**IMPACT ASSESSMENT – SCREENING FORM A**

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

Policy Title:	Immunisation for Trust Staff	Policy Author:	B Goodfellow
		Yes/No?	You must provide evidence to support your response:
1.	Does the policy/guidance affect one group less or more favourably than another on the basis of the following: (* denotes protected characteristics under the Equality Act 2010)		
	• Race *	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender *	No	
	• Culture	No	
	• Religion or belief *	No	
	• Sexual orientation including lesbian, gay and bisexual people *	No	
	• Age *	No	
	• Disability – learning difficulties, physical disability, sensory impairment and mental health problems *	No	
	• Gender reassignment *	No	
	• Marriage and civil partnership *	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination which can include associative discrimination i.e. direct discrimination against someone because they associate with another person who possesses a protected characteristic, are any exceptions valid, legal and/or justifiable?	No	
4(a).	Is the impact of the policy/guidance likely to be negative? (If “yes”, please answer sections 4(b) to 4(d)).	No	
4(b).	If so can the impact be avoided?	-	
4(c).	What alternatives are there to achieving the policy/guidance without the impact?	-	
4(d).	Can we reduce the impact by taking different action?	-	

<b>Comments:</b>	<b>Action Plan due (or Not Applicable):</b>
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Name and Designation of Person responsible for completion of this form: ..... B Goodfellow ..... Date: 3/11/10 .....

Names & Designations of those involved in the impact assessment screening process: ..... B Goodfellow & R Fagg .....

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified on this form, please refer to the Policy Author identified above, together with any suggestions for the actions required to avoid/reduce this impact.)

*For advice on answering the above questions please contact Frances Blackburn, Head of Nursing, Freeman/Walkergate, or, Christine Holland, Senior HR Manager. On completion this form must be forwarded electronically to Steven Stoker, Clinical Effectiveness Manager, (Ext. 24963) [steven.stoker@nuth.nhs.uk](mailto:steven.stoker@nuth.nhs.uk) together with the procedural document. If you have identified a potential discriminatory impact of this procedural document, please ensure that you arrange for a full consultation, with relevant stakeholders, to complete a Full Impact Assessment (Form B) and to develop an Action Plan to avoid/reduce this impact; both Form B and the Action Plan should also be sent electronically to Steven Stoker within six weeks of the completion of this form.*