Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust

Meningococcal Infections

Management of Cases and Contacts

This APD supersedes: PAT/IC 12 v.6 – Policy for the Management of Cases and Contacts of Meningococcal Infections

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Executive Sponsor(s):	Simon Brown, Deputy Chief Nurse
Author/reviewer: (this version)	Dr L Jewes, Consultant in Infection
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Target audience:	Trust-wide

Amendment Form

Version	Date Issued	Brief Summary of Changes	Author
8	19 August 2024	• References updated • Treatment updated including reference to Amendment the use of steroids • Amendment of PHE to UKHSA • Updating of contact numbers	Dr Linda Jewes
7	19 April 2021	• Updated Executive Sponsor • Added section/s on Patients lacking Capacity and data protection • Introduction updated regarding Close Contacts • Updated Microbiological Investigation page 7 regarding immunological abnormalities • Section 9 Antibiotics for Prophylaxis • Update training statement • References updated • Appendix 1 Contact Details updated	Dr Linda Jewes
6	26 June 2018	• Added Executive Sponsor/s on front page • Updated Duties and Responsibilities • Refreshed Monitoring Compliance section • Added standard statement from the Educational Department to the Training section. • Reference 1&3 updated	Dr. L. Jewes IPCT
5	23 April 2015	• Policy updated in line with new trust format (CORP/COMM 1 v6) • Section 9 Change in prophylaxis for children • Amended contact details • Added Appendix 2 Equality Impact • Antimicrobial therapy added	Dr. L. Jewes IPCT

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1. INTRODUCTION

This guidance should be read in conjunction with **"Guidance for public health management of meningococcal disease in the UK"**[1]**,** published by Public Health England 2019 and NICE guidance [2.]

Household contacts of a patient with meningococcal infection are at a higher risk than the general population of developing the infection themselves. The risk of a second case occurring in the household is around 1%. Other close contacts, e.g. family members and partners are also at increased risk. Less close contacts, e.g. work colleagues and school classmates are generally not at increased risk. Medical and nursing staff are not at increased risk either, unless they have been directly exposed to secretions e.g. during resuscitation.

Meningococci (Neisseria meningitidis) are spread from person to person by respiratory droplets, and prolonged close contact facilitates spread. The bacteria are then carried in the nasopharynx, usually harmlessly, but with the potential to multiply and invade the bloodstream, causing septicaemia and meningitis.

It is therefore essential to identify the close contacts of a patient with meningococcal infection and to give them antibiotic prophylaxis, which will keep their own risk of infection to a minimum if they have recently acquired the infection. Prophylaxis works by eliminating meningococci from the nasopharynx before they can multiply and cause infection. Prophylaxis also aims to eliminate carriage in the pool of contacts as one of these may have been the original source of infection. Immunisation is offered to contacts of group A, C, Y and W135 meningococci, after investigations have been completed but following a single case of confirmed or probable meningococcal group B disease, vaccination against group B is not recommended for close contacts (see "Immunisation against infectious disease") [3].

2. PURPOSE

To ensure appropriate management of cases of meningococcal infection and to ensure that all measures are taken to limit spread of infection.

3. DUTIES AND RESPONSIBILITIES

This policy covers infection prevention and control management issues for Trust staff this includes:-

- Employees
- Volunteers
- Agency/Locum/Bank Staff
- Contractors whilst working on the Trust premises

All staff working on Trust premises, outreach clinics and community settings, including Trust employed staff, contractors, agency and locum staff are responsible for adhering to this policy, and for reporting breaches of this policy to the person in charge and to their line manager.

Chief Executive: To ensure that infection control is a core part of clinical governance and patient safety programmes. Promote compliance with infection control policies and national standards in order to ensure low levels of health care associated infections.

Board of Directors: The Board of Directors and executives, through the Chief Executive, is ultimately responsible for ensuring that systems are in place that effectively manage the risks associated with Infection Control. Their role is to support the implementation of a Board to Ward culture to support a Zero Tolerance approach to Health Care Associated Infections

The Director of Infection Prevention and Control will provide assurance to the board that effective systems are in place.

Executive Directors: An Executive Director is required to sponsor the development of any new policy and procedure. The process of Infection Prevention and Control policies is delegated to Director of Nursing, Midwifery and Quality and the Medical Director

Director of Infection Prevention and Control: Is responsible for the development of infection prevention and control strategies throughout the Trust to ensure best practice

The Infection Prevention and Control Team: is responsible for providing expert advice in accordance with this policy, for supporting staff in its implementation, and assisting with risk assessment where complex decisions are required.

Consultants in Infection: As part of their role provide expert advice to senior staff out of hours. They will also be responsible in alerting the IPC team of any new alert organisms and difficulties in isolation out of hours.

Occupational Health and Wellbeing Services: Trust staff with concerns about prophylaxis should contact the Occupational Health department.

Ward and Department Managers: are responsible for ensuring implementation within their area, and for ensuring all staff who work within the area adhere to the principles at all times.

Consultant Medical Staff: are responsible for ensuring their junior staff read and understand this policy, and adhere to the principles contained in it at all times.

Chief operating officer / On-call Managers: are responsible for providing senior and executive leadership to ensure implementation of this policy, and for ensuring infection risks are fully considered and documented when complex decisions need to be made regarding capacity and patient flow.

PATIENTS LACKING CAPACITY

Sometimes it will be necessary to provide care and treatment to patients who lack the capacity to make decisions related to the content of this policy. In these instances staff must treat the patient in accordance with the Mental Capacity Act 2005 (MCA 2005).

- A person lacking capacity should not be treated in a manner which can be seen as discriminatory.
- Any act done for, or any decision made on behalf of a patient who lacks capacity must be done, or made, in the persons Best Interest.
- Further information can be found in the MCA policy, and the Code of Practice, both available on the Extranet.

4. RECOGNITION AND INVESTIGATION OF A CASE

Patients are usually aged between three months and thirty years, but any age may be affected. They may have septicaemia alone or septicaemia with meningitis.

Signs and Symptoms

Any of the following may occur: -

- Sudden onset of fever, confusion, drowsiness
- Petechial or purpuric rash; non-blanching, may be widespread or localised.
- Maculopapular rash also occurs
- Headache, vomiting, photophobia, irritability and neck stiffness
- Can present with non-specific symptoms and signs, especially at extremes of age and young people and adults can appear well at presentation

NOTE: - septicaemia alone presents without meningitis and has a higher mortality than meningitis.

It is strongly recommended that general practitioners give IV /IM benzylpenicillin to strongly-suspected cases of meningococcal disease (i.e. meningitis with typical non-blanching rash or suspected meningococcal septicaemia) before transfer to hospital. However, rapid transfer to hospital is of paramount importance and urgent transfer should not be delayed in order to give the antibiotics.

However, NICE[2] recommends that children and young people under 16 years with suspected meningitis WITHOUT the typical rash should be transferred directly to hospital without giving parenteral antibiotics (unless urgent transfer is not possible, in which case the antibiotics should be given).

Doses of benzylpenicillin:-

<1 year	300 mg
1-9 years	600 mg
>10 years	1.2 g

Microbiological Investigations

If the patient has had benzylpenicillin before admission, it may be difficult to grow the organism, but it is important to attempt it for, a) confirmation of the diagnosis, b) typing of the strain and decisions on vaccination, c) local and national epidemiology. Molecular methods of diagnosis are now available to diagnose and further characterise strains. The following should be routine: -

1. Blood culture. Before further antibiotics (but do NOT delay giving antibiotics).

2. EDTA blood sample for meningococcal PCR (polymerase chain reaction).

3. Throat swab. As soon after admission as possible. This may be the only specimen which is positive if prior antibiotics given. However, this is only suggestive and not diagnostic of the disease.

4. CSF. For microscopy and culture if clinically indicated and if patient condition suitable (ideally before antibiotics given as long as this does not cause significant delay). This may be tested by PCR (Film Array) if appropriate, as determined by the Consultants in Infection. All Paediatric samples receive PCR testing

5. Paired sera for meningococcal antibody if cultures negative. First within a week of onset, second around two weeks later.

Immunological abnormalities (e.g. complement deficiency) can predispose to meningococcal disease. This may present as recurrent infection or as infection with rare serogroups in teenagers or young children e.g. Meningococcal disease caused by rare serogroups, non-serogroupable meningococci or recurrent infection due to any serogroup, additional immunological investigation should be strongly considered (e.g. presence of spleen, splenic function, complement deficiency, HIV testing).

5. ANTIMICROBIAL THERAPY

Treatment needs to be commenced immediately if meningitis/meningococcaemia is suspected, with **Ceftriaxone 2g bd IV.**
(If penicillin anaphylactic contact Consultant in Infection)

Treatment may be adjusted once sensitivities are available on discussion with Consultant in Infection. For meningitis of unknown cause, including use of steroids, see *"Policy for treatment of central nervous system infection"* (Trust Policy)
Steroids are not indicated for people with known/strongly suspected meningococcal disease.

6. INFECTION CONTROL PRECAUTIONS

1. It is recommended that patients suspected of having meningitis (including viral) or meningococcal septicaemia are isolated in a side room for the first 24 hours of antibiotic therapy. If viral meningitis is suspected then enteric precautions are to be implemented for 7 days after the onset of illness unless a non-enteroviral diagnosis can be made. This is due to the possibility of the virus being shed in the faeces.

2. Respiratory precautions including wearing a surgical face mask must be taken by staff when undertaking procedures which may results in aerosols. For meningococcal meningitis (and/or septicaemia) respiratory precautions must continue until 24 hours of appropriate (systemic) antibiotic therapy is completed.

7. NOTIFICATION

Meningitis (all causes) and meningococcal septicaemia are notifiable diseases, i.e. it is a statutory requirement that the UK Health Security Agency (UKHSA) is informed of each case. They manage the community aspect of the case, e.g. prophylaxis and vaccination if there are a large number of contacts, information to schools, enquiries from the media etc. The clinician is required to notify UKHSA about all suspected cases as soon as possible. Notification should be on suspicion - it is not necessary to wait for confirmation of a result. Notification is the responsibility of the doctor treating the patient, but the Consultant in Infection or Infection Control Nurses can give advice on this. The doctor should telephone UKHSA initially, to provide information about the patient's condition, contacts during the seven days before onset, and place of work / school. (See appendix 1 for contact details). Notification via telephone call to regional and national epidemiology centres. See a contact number in Appendix 1

Note: NOTIFICATION IS A LEGAL REQUIREMENT

8. IDENTIFICATION OF CONTACTS OF CASES OF PROBABLE MENINGOCOCCAL INFECTION

As soon as the patient's condition has been stabilised, the ward doctors should begin collecting information from the family about the patient's contacts during the seven days before onset of illness. For the close contacts who always need prophylaxis (see below), names, dates of birth, addresses and general practitioners should be listed as far as possible. It is also helpful to get information about the patient's school or place of work and the date they were last there.

97% of cases are sporadic but there is a small risk to people who live in the same household as a case of meningococcal disease. This is highest in the first 7 days and falls over the following 4 weeks.

For public health management of contacts, advice must be sought from UK Health Security Agency UKHSA (details in Appendix 1)

Close contacts who always need prophylaxis (Give irrespective of vaccination status)

1. People living in the same house as the patient or who have had prolonged close contact with the case in a household type setting for 8 hours or more

2. Family members and friends who have spent time with the patient, especially "Kissing contacts". Partners should be included.

3. Any childminder who has been looking after the patient in a domestic situation.

4. Members of staff. Chemoprophylaxis is recommended only for those whose mouth or nose is directly exposed to large particle droplets/secretions from the respiratory tract of a probable or confirmed case of meningococcal disease during acute illness until they have completed 24 hours of systemic antibiotics. This type of exposure will only occur among staff who are working close to the face of the case without wearing a mask or other mechanical protection. In practice this implies a clear perception of facial contact with droplets/secretions and is unlikely to occur unless using suction during airway management, inserting an airway, intubating, or if the patient coughs in your face.

General medical or nursing care of cases is not an indication for prophylaxis[1].

Contacts who do not usually need prophylaxis

1. Children and teachers at the patient's school (including nursery/ pre-school) or college.

2. Work colleagues.

3. Residents of nursing/residential homes.

4. Ambulance staff, nursing and medical staff, who have not been directly exposed to the patients saliva or nasopharyngeal secretions.

5. Food or drink sharing or similar low levels of salivary contact.

The ward doctor should then telephone UKHSA, a) to notify the case, and b) to discuss prophylaxis for the contacts. Family members are usually visiting and can be given their antibiotics on the ward. Other contacts, e.g. friends or childminders can go to their general practitioner for prophylaxis. UKHSA will let the GPs know.

UKHSA will decide whether a wider circle of contacts, e.g. at a nursery school, need to have prophylaxis. This will depend on the circumstances of the case, whether there have been any other cases which could be linked etc. The ward doctors are not involved in arranging prophylaxis for these contacts. A & E doctors should advise contacts who attend the department that they will be contacted by UKHSA. The Consultant in Infection and the Infection Prevention and Control Team can also give advice.

Staff who require prophylaxis (see above) should obtain this from A &E but should also inform the Occupational Health Department so that this can be documented in their records

Notes

1. In the event of delayed diagnosis, UKHSA will arrange prophylaxis for close contacts up to four weeks after onset of the patient's illness.
2. **Prophylaxis for the case**. Cases treated with cephalosporins (e.g. ceftriaxone, cefotaxime) do not require antibiotic chemoprophylaxis. However, if the case (including conjunctivitis cases) is treated with any other antibiotic, chemoprophylaxis should be offered IN ADDITION when the case is able to take oral medication and, ideally, before discharge from hospital.

9. ANTIBIOTICS FOR PROPHYLAXIS

The BNF should be consulted for further details of doses, contraindications and side effects.

The choice of prophylactic agents is as follows:

1. **Ciprofloxacin (first-line)**

   Recommended for use in all age groups and in pregnancy.
   This is now licenced for prophylaxis. It has the advantage over rifampicin in being given as a single dose and does not interact with oral contraceptives. It is given as a single oral dose;

   Dose-

Adults and children over 12 years	500 mg stat
Children 5 to 11 years	250 mg stat
Children 1 to 4 years	125mg stat
Children under 5 years	30 mg/kg (up to max 125 mg) stat

   Contraindications:
   Contraindicated in known ciprofloxacin hypersensitivity. Unpredictable effect on epilepsy (but may be preferable to rifampicin if patient is on phenytoin). It interacts with several drugs, e.g. anticoagulants, antidiabetics, but a single dose is unlikely to have significant effect.

2. **Rifampicin**

   In the absence of contraindications, this may be used in all age groups.

   Dose-
   To be given twice daily for 2 days;

Babies under 1 year	5 mg/kg

Children 1 to 11 years	10 mg/kg (max 600mg)
Adults and children over 12 years	600 mg

Contraindications:
Rifampicin is not recommended in pregnancy or in liver disease. It interacts with many other drugs, e.g. oral contraceptives, anticoagulants, antidiabetics, steroids and propranolol. (See BNF for full details). Rifampicin may produce a reddish discolouration of the urine, sputum and tears. The patient should be forewarned of this. Soft contact lenses may be permanently stained.

3. **Ceftriaxone**

   Suitable for pregnant women and people for whom rifampicin or ciprofloxacin are contraindicated. It is given as a single IM injection, which is painful. Side effects include diarrhoea, allergies (caution in penicillin allergy), hepatic and blood disorders

   Dose-

Children 1 month to 12 years	125 mg dose
Adults and children over 12 years	250 mg/dose

4. **Azithromycin**

   A single dose can be advised for chemoprophylaxis for pregnant women.

   Dosage-
   Azithromycin 500mg stat

10. IMMUNISATION

This will be advised by UKHSA

Index case

Cases do not need additional vaccination unless they are unimmunised or partially immunised for their age according to the national immunisation schedule, are in a risk group for meningococcal disease or are part of a defined cluster where vaccination is recommended.

At-risk index cases (eg asplenia, complement-deficiency) who are unimmunised or partially immunised should be appropriately immunised. Current recommendations include the MenACWY conjugate vaccine (2 doses one month apart if aged <1 year; 1 dose after first birthday) and MenB vaccine (2 doses two months apart with a booster at 12 months for <1 year-olds, 2 doses 2 months apart for 1-10 year-olds and 2 doses 1 month apart for older children and adults)

Close Contacts

MenACWY: For confirmed serogroup A, C, W or Y infections, close contacts of any age should be offered the MenACWY conjugate vaccine, unless they are confirmed to have been immunised against the relevant meningococcal serogroup within the preceding 12 months (2 doses one month apart if aged <1 year; 1 dose after first birthday). For close contacts of MenC cases, another MenC-containing conjugate vaccine (e.g. Menitorix®, NeisVac®) would be a suitable alternative.

MenB: After a single case of confirmed or probable serogroup B infection, vaccination against MenB is not recommended for close contacts, even if the strain is identified as vaccine-preventable.

See national guidance[1] for further details.

Immunisation will be co-ordinated by UKHSA, who will advise on the type of vaccine to use. The vaccine is usually administered by the General Practitioner of the contact, who will be contacted by UKHSA. Immunisation is carried out in addition to antibiotic prophylaxis and is given when typing results from the Reference Laboratory are available.

11. TRAINING AND SUPPORT

The training requirements of all staff will be identified through a training needs analysis. Role specific education will be delivered by the service lead or nominated person. Please refer to the Mandatory and Statutory Training Policy (CORP/EMP 29) for details of the training needs analysis, as staff will require different levels of training.

Infection prevention and control must be included in individual Annual Professional Development Appraisal and any training needs for infection prevention and control addressed.

It is an expectation for all clinical staff to attend IPC training as per local Training Needs Analysis, which will be captured by the Training and Education Department via Electron Staff Records (ESR) system.

12. MONITORING COMPLIANCE WITH POLICY

Monitoring	**Who**	**Frequency**	**How Reviewed**
The policy will be reviewed in the following circumstances:-	APD Process Group IPCT	Every three years routinely, unless: • When new national or international guidance are received. • When newly published evidence demonstrates need for change to current practice. • Action required from Root Cause Analysis Serious Incident Investigation Report	Approved Procedural Document (APD) database Policy will be approved and ratified by the Infection Prevention and Control Committee

Compliance with policy to negate cross-infection	The Infection Prevention and Control Practitioners	Weekly	"Alert organism review" to monitor adherence with the policy.
Training needs for infection prevention and control	Ward and Department Managers Training and Education Department	Annually	Staffs Professional Development Appraisal Attendance will be captured by the Training & Education Departmnet via ESR system

13. DEFINITIONS

Immunisation – protects children and adults against harmful infections.

Antibiotic Prophylaxis – treatment with antimicrobials to prevent/ward off disease e.g. meningococcal infection.

Best Interest - There is no single definition of Best Interest. Best Interest is determined on an individual basis. All factors relevant to the decision must be taken into account, family and friends should be consulted, and the decision should be in the Best interest of the individual. Please see S5 of the MCA code of practice for further information.

14. EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment For All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified. (See Appendix 2).

15. DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the UK General Data Protection Regulation (GDPR) 2021.

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website: https://www.dbth.nhs.uk/about-us/our-publications/information-governance/

16. ASSOCIATED TRUST PROCEDURAL DOCUMENTS

This policy should be read in conjunction with other Trust Policies and protocols for the prevention and control of HCAI in line with the Health and Social Care Action 2008. In particularly:

- Hand Hygiene Policy – PAT/IC 5
- Mental Capacity Act 2005 – Policy and Guidance, including Deprivation of Liberty Safeguards (DoLS) - PAT/PA 19
- Pathology Specimens – Collection & Handling of Pathology Specimens – PAT/IC 11
- Privacy and Dignity Policy – PAT/PA 28
- Fair Treatment for All Policy – CORP/EMP 4
- Equality Analysis Policy – CORP/EMP 27

17. REFERENCES

Guidance in this document is based on the following national guidance:

Public Health England. (2019). *Guidance for public health management of meningococcal disease in the UK*. **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/688835/Public_health_management_of_meningococcal_disease_guidelines.pdf**

Public Health England. (2013, September 11). *Immunisation against infectious disease*. GOV.UK. https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book

NICE. (2024, March 19). *Overview | Meningitis (bacterial) and meningococcal disease: recognition, diagnosis and management | Guidance | NICE*. Www.nice.org.uk. https://www.nice.org.uk/guidance/ng240

APPENDIX 1 – CONTACT DEAILS OF THE CONSULTANT IN COMMUNICABLE DISEASE CONTROL (CCDC)

CONTACT DETAILS OF CONSULTANT IN COMMUNICABLE DISEASE CONTROL (CCDC)

Suspected or confirmed cases of meningococcal infection must be immediately reported to the CCDC.

List of contact numbers

1	**UKHSA, Yorkshire and Humberside**	Tel: 0300 3030234
2	**UKHSA East Midlands**	Tel: 03442254524
2	**Consultant in Infection** Doncaster/Bassetlaw	Tel: 01302 642831 Or via the hospital switchboard
3	**Hospital Pharmacy** Pharmacist on duty	Tel: 01302 366666 Ext: 644339
4	**Health and Wellbeing Department**	Tel: 01302 366666 Ext: 642582
5	**Infection Prevention and Control Team**	Tel: 01302 644490

APPENDIX 2 - EQUALITY IMPACT ASSESSMENT FORM

Policy	Division/Executive Directorate and Department	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Meningococcal Infections Management of Cases and Contacts PAT/IC 12	Corporate Nursing Infection Prevention and Control	Dr L. Jewes	Existing Procedural Document	May 2024

1. Who is responsible for this policy? Infection Prevention and Control Team

2. Describe the purpose of the policy? To implement safe working practices within the healthcare setting.

3. Are there any associated objectives? To ensure appropriate management of cases of meningococcal infection and to ensure that all measures are taken to limit spread of infection.

4. What factors contribute or detract from achieving intended outcomes?

5. Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? No

- **If yes, please describe current or planned activities to address the impact**

6. Is there any scope for new measures which would promote equality? N/A

7. Are any of the following groups adversely affected by the policy?

a. Protected Characteristics	Affected?	Impact
b. Age	No	
c. Disability	No	
d. Gender	No	
e. Gender Reassignment	No	
f. Marriage/Civil Partnership	No	
g. Maternity/Pregnancy	No	
h. Race	No	
i. Religion/Belief	No	
j. Sexual Orientation	No	

8. Provide the Equality Rating of the service/ function/policy /project / strategy

Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4

9. Date for next review **June 2024**

Checked by: Dr K. Agwuh **Date: May 2024**