Ulster University

MENINGITIS PROTOCOL

Reviewed June 2015

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1. Introduction

Cases of meningococcal disease in Higher Education Institutions can cause considerable consternation and pose problems in public health management. Unlike cases of disease in young children, the close circle of contacts may be difficult to define and trace. Normal assumptions may not apply, as students will often be living in a hall of residence and may also be part of an active social network outside the hall. Misinformation about the incident may spread quickly by word of mouth and panic can easily result. Students who have recently left home may feel vulnerable especially if they have not yet established good access to local primary care services.

2. Definitions

Public Health Agency (PHA) is used in the rest of this paper to refer to the local public health department that is responsible for communicable disease control.

Consultant in Communicable Disease Control (CCDC) is used in the rest of this paper to refer to public health consultant responsible for control of communicable diseases.

Meningococcal Disease is an acute infectious disease caused by *Neisseria meningitidis*. This bacterium lives in the human throat and is commonly carried without ill effect. However illness can develop very rapidly and is fatal in 5-10% of cases. Illness is due to septicaemia (blood poisoning), meningitis (inflammation of the brain lining) or a combination of the two. Other parts of the body e.g. joints, heart and eye may occasionally be infected. Antibiotic treatment is needed.

Prophylaxis is preventive treatment. A short course of antibiotics (chemo prophylaxis) is recommended for close contacts of a case to reduce further cases by eradicating carriage in those contacts.

2.1 Case Definitions

The University will take its lead from the Consultant in Communicable Disease Control.

Initial diagnosis of meningococcal disease (meningitis or septicaemia) is often based on clinical findings. In the absence of microbiological confirmation, the nature and level of response will depend largely on the certainty of clinical diagnosis. The following are recommended case definitions:

https://www.gov.uk/government/collections/meningococcal-disease-guidance-data-and-analysis

- *Confirmed Case*: person with a clinical diagnosis of meningococcal meningitis or septicaemia, which has been confirmed microbiologically by culture or non-culture methods.

- *Probable Case*: person with a clinical diagnosis without microbiological confirmation, where the clinician and public health doctor consider that meningococcal disease is the most likely diagnosis.

- *Possible Case*: person with a clinical diagnosis of microbiological meningococcal or septicaemia without microbiological confirmation, where the clinician and public health doctor consider that diagnosis other than meningococcal disease are at least as likely.

2.2 Outbreak

Cases of meningococcal disease will normally be deemed related and an outbreak declared if TWO *confirmed or probable* cases of meningococcal disease occur at the same university within a four week period in the same term which are, or could be, caused by the same serogroup and serosubtype and for which a common link (e.g. same social network, same hall of residence) can be determined.

2.3 Cluster

Clusters of cases often occur which do not meet the outbreak definition above. After initial investigation, the CCDC will have to make a judgement whether or not to declare an outbreak.

In the following circumstances, cases of meningococcal disease at the same university will not normally constitute an outbreak:

- Two confirmed cases due to different strains, whatever the interval between them.

- Two confirmed or probable cases with no evidence of any common links in spite of intensive enquiry (e.g. no social contact, different halls of residence, different courses), whatever the interval between them.

- Two possible cases (or one possible and one confirmed/probable case), whatever the interval or link between them.

3 Raising Awareness among Students

At the start of the academic year, all new students should be encouraged to:

- Acquaint themselves with the symptoms and signs of meningococcal disease

- Register with a local general practice and inform Residential Services of doctor's name

- Look out for each other's welfare

- Acquaint themselves with the guidance on infectious disease control procedure (Health & Safety Services website)

- Inform someone (a friend, Residential Services staff or Student Support staff) if they are feeling ill, so that they can be monitored and prompt medical attention sought if their condition deteriorates.

The following are suggested methods for raising awareness:

- Distributing leaflets and symptoms cards to new students on arrival

- Displaying 'Meningitis Be Aware' campaign information on screens at campus receptions

- Displaying posters and leaflets throughout the university and in halls of residence

- Incorporating information of meningococcal disease in handbooks for new students, including the national meningitis charity helplines

- Making leaflets and symptom cards available through Student Support campus offices

As described above, public health authorities are brought into play when 2 or more cases are confirmed. However, anxieties are raised and questions are asked when any one student is diagnosed with meningitis or when such an illness is suspected. In order that students and their families are well-informed and to allay unnecessary anxiety, it will be appropriate to re-visit or emphasise the measures outlined above. Academic staff may wish to distribute information by email or in printed form. This information is available from Student Support.

4 Action In The Event Of Student Illness

Students should be encouraged to look out for each other, and to report illness to a friend or Residential Services staff (if in halls of residence). If there is concern, it is important to consult a doctor. Students should know how to get help and advice promptly if they are ill. In particular, it is important that contact information for local general practitioners is made readily available, particularly in halls of residence. NHS Direct and the meningitis charities are also available for telephone advice (see page 9).

If a doctor is called to see a student, it is important that a friend or Residential Services staff member is aware of this. If the doctor advises that the student be kept under observation, it is vital that clear arrangements are made for regular monitoring by a friend or accommodation staff. In halls of residence, standing arrangements for monitoring a student with possible symptoms of meningitis are desirable.

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Meningococcal disease is notoriously difficult to diagnose in the early stages. It usually starts with fever, aches and pains, and feeling unwell, just like ‘flu. At this stage it is not possible to make an accurate diagnosis. In meningococcal disease however the illness can get worse very rapidly.

Early admission to hospital is advised if a student’s condition is worsening, especially during an outbreak. It is important to keep looking for signs that help in making the diagnosis.

Signs of Meningococcal Disease

- Fever/vomiting
- Severe headache
- Stiff neck (less common in young children)
- Dislike of bright lights (less common in young children)
- Very sleepy/vacant/difficult to wake
- Confused/delirious
- Rash (anywhere on the body – not present in all cases)
- Seizures

Signs of Septicaemia

- Fever/vomiting
- Limb/joint/muscle pain
- Cold hands and feet/shivering
- Pale or mottled skin
- Breathing fast/breathless
- Rash (anywhere on the body)
- Very sleepy/vacant/difficult to wake
- Confused/delirious

If a student is unwell, any of these signs is an indication that medical help must be summoned as a matter of utmost urgency. If a doctor is not immediately available, an ambulance should be called.

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4.1 Action for an Outbreak of Meningococcal Disease

	Action: **Note: Not in order of priority**	**Person/Organisation Responsible**
1	Activate the Outbreak Plan and convene an Incident Control Team	CCDC*
2	Consult with the regional epidemiologist, CDSC	CCDC
3	Issue information immediately (within four hours) to students in the same hall of residence (where relevant)	University (Student Support/Residential Services)
4	Issue information urgently (same day) to all departments including corporate communications	University (Student Support)
5	Alert local hospital accident and emergency departments and acute hospitals	CCDC
6	Consider notifying other local universities (where applicable)	University (Student Support)
7	Alert all local general practices as soon as possible (next working day) e.g. via public health link	University/CCDC
8	Define the target group	Incident Control Team
9	Convene meeting with the target group	University
10	Check for acute illness in members of the target group	GP
11	Issue preventive antibiotics to the target group	(GP/CCDC)
12	Notify details of the incident to the meningitis charities and NHS Direct	CCDC
13	Consider setting up a helpline for students, staff and parents, ensuring national charity helplines are available as back up	University
14	Consider informing all CCDC by email	CCDC
15	Ensure appropriate response to media enquiries and issue statements as appropriate	University (Corporate Communications)/PHA (jointly)

* CCDC – Consultant in Communicable Disease Control

5 Contact Information

5.1 Consultant In Communicable Disease Control (CCDC) Contacts

If more than one student contracts this disease, the University (Head of Student Support or designate) is to notify the CCDC in order to confirm, or otherwise, if the cases are connected:

During Office Hours (Monday to Friday 0900 – 1700)

Public Health Agency Linenhall Street Belfast	0300 555 0114

Outside Office Hours:

Ambulance Control	028 9040 4045
Doctor on Call	028 9040 4045

5.2 Ulster University Contacts

The CCDC is to inform the University through Student Support:

Head of Student Support
Jean McMinn 028 9036 6428 (Office)

Pro-Vice-Chancellor (Academic Planning, Partnerships and International Affairs)
Professor Richard Millar 028 9036 8632 (Office)

If neither is available, contact the Provost of the campus at which the student studies:

Professor Alastair Adair Belfast & Jordanstown campuses	028 9536 7330
Professor Deirdre Heenan Coleraine & Magee campuses	028 7167 5352

Out of Hours

When the University is closed, please contact the University Security Services who will contact the Provost of the campus at which the student studies:

Belfast	(028) 9536 7251	Coleraine	(028) 7012 4480
Jordanstown	(028) 9036 6121	Magee	(028) 7167 5262

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5.3 Contact Details For Deans And Heads Of School

FACULTY/DEAN	SCHOOL	HEAD OF SCHOOL
Arts Dean: Professor Jan Jedrzejewski Mr Gary Kendall Head of Faculty Administration	Creative Arts and Technologies	Professor Paul Moore
	English and History	Professor Ian Thatcher
	Irish Language and Literature	Dr Malachy Ó Néill
	Media, Film and Journalism	Dr Colm Murphy
	Modern Languages	Dr David Barr
	Research Graduate School	Dr Lisa Fitzpatrick
Art, Design and the Built Environment Dean: Professor Ian Montgomery Mr Philip Doherty Head of Faculty Administration	Belfast School of Architecture	Professor Peter Walker
	Belfast School of Art	Professor Paul Seawright
	Built Environment	Professor Greg Lloyd
	Research Graduate School	Professor Neil Hewitt
Computing and Engineering Dean: Professor Liam Maguire Mrs Bernie McKevitt Head of Faculty Administration	Computing and Information Engineering	Professor Martin McKinney
	Computing and Intelligent Systems	Dr Heather Sayers
	Computing and Mathematics	Professor Paul Hanna
	Engineering	Professor Colin Turner
	Research Graduate School	Dr Sonya Coleman
Life and Health Sciences Dean: Professor Carol Curran Associate Dean: Professor Geoff McMullan	Biomedical Sciences	Professor Neville McClenaghan
	Environmental Sciences	Professor Adrian Moore
	Health Sciences	Dr Mary Hannon-Fletcher

Mrs Glynis McBride Head of Faculty Administration	Nursing	Professor Owen Barr
	Pharmacy and Pharmaceutical Science	Professor Paul McCarron
	Psychology	Professor Melanie Giles
	Research Graduate School	Professor Julian Leslie
	School of Sport	Professor David Hassan
Social Sciences Dean: Professor Paul Carmichael Mr Colm Crean Head of Faculty Administration	Communication	Dr Raffaella Folli
	Criminology, Politics and Social Policy	Mrs Ruth Fee
	Education	Dr Sam McGuinness
	Graduate School of Professional Legal Education	Miss Diane Nixon
	Law	Dr Eugene McNamee
	Research Graduate School	Dr Jacqueline Reilly
	Sociology and Applied Social Studies	Professor Mary McColgan
Ulster Business School Dean: Professor Marie McHugh Mr Tom O'Neill Head of Administration	Department of Accounting, Finance and Economics	Professor Gillian Armstrong
	Department of Business and Enterprise	Dr Karise Hutchinson
	Department of Hospitality and Tourism Management	Dr Una McMahon-Beattie
	Department of International Business	Dr Lisa Bradley
	Department of Management and Leadership	Professor Heather Farley
	Department of Marketing, Entrepreneurship and Strategy	Dr Danielle Mc Cartan-Quinn
	Research Graduate Centre	Professor Barry Quinn
	The Business Institute	Michael McQuillan

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6 Helplines and Leaflets

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6.1 Meningitis Charities and NHS Direct

The meningitis charities may be contacted when there is a case of meningococcal disease. They need to have sufficient information so that they can support callers with appropriate advice. The information given to these bodies should include **anonymised** details of the case and of public health action taken.

Leaflets available from

Meningitis Trust	01453 768000
Meningitis Research Foundation	01454 281811
Meningitis Association Scotland	0141 554 6680

6.2 Telephone Helplines

Meningitis Now: 0808 80 10 388
(Formerly Meningitis Trust)
09:00 – 22:00 every day

Meningitis Research Foundation 0808 800 33 44

Currently: *09:00-20:00 Monday to Friday*
10:00-13:00 & 17:00-20:00 Weekends & public holidays

Websites

Meningitis Research Foundation: http://www.meningitis.org/
Meningitis Now: http://www.meningitisnow.org/
(formerly Meningitis Trust):

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7 Background

7.1 Incidence of Meningococcal Disease

7.1.1 Around 2000 cases of meningococcal disease are reported each year in England and Wales. Over 75% of cases are due to Group B strains, for which there is still no vaccine. Most occur in children under five years of age. A second peak of incidence occurs at age 15-19 years, corresponding with the age at which most students start further or higher education. University undergraduate students are at higher risk compared with non-students of the same age group, especially those in universities with a high proportion of students in catered accommodation. The risk is highest among first year students who make up the majority of residents in catered accommodation, especially in the first term. Outbreaks in this group are well documented. A higher risk of meningococcal disease among first year students in dormitories has also been observed in the USA. Postgraduate students and staff are not considered to be at increased risk.

University undergraduate students, especially in the first term of the first year, are at increased risk from meningococcal disease

7.1.2 Why might this be? Meningococcal carriage rates in the 15-19 year old age group (25%) are higher than those in the general population (10%). Many first year students live in communal halls of residence so that students starting university are likely to be exposed to a wide variety of meningococcal strains many of which they may not have encountered previously and in a setting where extensive social interaction occurs. Carriage rates rise rapidly during the first term among first year students. Although most strains of meningococci do not cause illness and help to build up immunity, a small proportion of strains are virulent and can cause illness. This novel exposure is likely to be less in first year students at those universities where a much higher proportion live at home, and in second and third year students many of whom leave the hall of residence after securing private rented accommodation.

First year students living in communal halls are at higher risk because of higher exposure to meningococci.

7.1.3 Active and passive smoking have been linked with meningococcal carriage, and passive smoking with disease; one outbreak in a US university was associated with a crowded smoky bar. In one recent UK study, meningococcal disease was linked to halls of residence with bars but not surprisingly to smoky bars.

7.1.4 Meningococcal disease (septicaemia or meningitis) is notoriously difficult to diagnose in the early stages. It usually starts with fever, aches and pains, and feeling unwell, just like flu. At this stage doctors cannot make an accurate diagnosis. In meningococcal disease however, the illness can get worse very rapidly.

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Signs of Meningococcal Disease

- Rash that does not fade when pressed with a glass (due to bleeding under the skin, a very useful sign)
- Loss of consciousness
- Severe neck stiffness
- Very cold hands and feet
- Severe and worsening headache (without other obvious cause)

7.1.5 Antibiotics by injection are an essential and effective part of treatment. An injection of penicillin given by the GP before admission to hospital may be lifesaving. The fatality rate is around 5-10%, which is in line with the expected fatality rate for all cases of meningococcal disease. The table shows that while incidence in university students is falling, the fatality rate shows no sign of change. Overwhelming septicaemia (blood poisoning) is usually the main cause of death.

7.1.6 Not only is meningococcal disease difficult to diagnose, but it also presents particular difficulties in public health management. These can arise in relation to defining, tracing and alerting contacts, communicating with fellow students and staff, and alerting relevant health care professionals. The arrangements for student health services vary considerably. In some institutions there may be a university or college general practice with which all students and most staff and their families are registered. Elsewhere, a university or college health centre may provide a limited range of services, but students and staff are registered with a variety of local general practices. Therefore, when a case of meningococcal disease occurs in a student or staff member, the nature of the response will vary depending on the exact circumstances. It will need to take account of the certainty of diagnosis, the place of residence of the case, the local configuration of student health services and the occurrence of any other recent cases of meningococcal disease in the same higher education institution.