Meningococcal Infections Management Procedure

(IPC Policy Manual)
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1. INTRODUCTION

Meningitis is an infection of the protective membranes that surround the brain and spinal cord (meninges).

It can affect anyone, but is most common in babies, young children, teenagers and young adults.

Meningitis can be very serious if not treated quickly. It can cause life-threatening blood poisoning (septicaemia), lead to sepsis and result in permanent damage to the brain or nerves. It is estimated that meningococcal infection accounts for about 2% of all sepsis.

A number of vaccinations are available that offer some protection against meningitis.

The annual incidence of acute bacterial meningitis in developed countries is estimated to be 2–5 per 100,000 population.

Bacterial meningitis and meningococcal disease are transmitted through close contact via droplets or secretions from the upper respiratory tract. Transmission usually requires frequent or prolonged close contact.

The incubation period is usually 2 to 7 days. The onset of disease can vary from severe and sudden in onset or in a gradual, subtle way.

Meningitis is usually acquired from people who carry these viruses or bacteria in their nose or throat but aren't ill themselves. It can also be acquired from someone with meningitis, but this is less common.

Early detection of meningococcal infection is vital and medical help must be sought immediately on recognition of any of the symptoms detailed below.

Viral meningitis is the most common type of meningitis. It is often less severe than bacterial meningitis, and most people get better without treatment.

2. PROCEDURE

2.1 All suspected cases of meningitis/ meningococcal disease are medical emergencies requiring immediate acute hospital admission.

Signs and Symptoms – Adults and Children

Early symptoms can include fever, headache, nausea, vomiting, and muscle pain, with cold hands and feet.

A full list of symptoms can be found in appendix 36, accessed by this link.
If a patient presents with symptoms meningococcal infection must be considered and prompt admission/transfer to an acute hospital is required.

The patient may also present with a rash that does not fade under pressure. This is known as ‘The Glass Test’ and is a sign of meningococcal septicaemia. This rash may begin as a few small spots anywhere on the body and can spread quickly to look like fresh bruises. When the side of a clear drinking glass is pressed firmly against the skin the spots or rash will still be seen. This together with a fever is an emergency situation.

The spots or rash are caused by blood leaking into the tissues under the skin. They are more difficult to see on darker skin, so look on paler areas of the skin and under the eyelids. The spots or rash may fade at first, so keep checking.

However, if someone is ill or is obviously getting worse, do not wait for spots or a rash to appear. They may appear late or may not appear at all.

Rapid transfer to an acute hospital is of paramount importance as it can make a difference to the outcome.

2.2 Additional Information - Children and Young People

Consider bacterial meningitis and meningococcal septicaemia in children and young people who present with signs and symptoms as per adults, including the glass test.

- Be aware that:
  - some children and young people will present with mostly non-specific symptoms or signs, and the conditions may be difficult to distinguish from other viral infections presenting in this way
  - children and young people with specific symptoms and signs are more likely to have bacterial meningitis or meningococcal septicaemia, and the signs and symptoms may become more severe and more specific over time
Be alert to the possibility of bacterial meningitis or meningococcal septicaemia when assessing children or young people with acute febrile illness.

Healthcare professionals should be aware that classical signs of meningitis (neck stiffness, bulging fontanelle, high-pitched cry) are often absent in infants with bacterial meningitis.

Children and young people with bacterial meningitis commonly present with non-specific symptoms and signs, including fever, vomiting, irritability, and upper respiratory tract symptoms. Some children with bacterial meningitis present with seizures.

Consider other non-specific features of the child's or young person's presentation, such as:

- the level of parental or carer concern (particularly compared with previous illness in the child or young person or their family),
- how quickly the illness is progressing, and
- clinical judgement of the overall severity of the illness.

### 2.3 Close Contacts

The management of close contacts will be undertaken in conjunction with the Acute Response Centre (ARC), Public Health England. They will assess and inform all those who need prophylactic antibiotic treatment.

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 girlfriends or boyfriends, are also at increased risk. Contacts such as work colleagues and school classmates are generally not at increased risk. Medical and nursing staff are not at increased risk unless they have been directly exposed to secretions during resuscitation procedures.

It is essential to identify the close contacts of a patient with meningococcal infection and to give them antibiotic prophylaxis. Staff will need to collate details of patient contacts during the 7 days before onset of illness, as requested by Public Health England.

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 there is no vaccine currently routinely recommended for group B strains, apart from certain high risk groups (“Green Book” - Immunisation against infectious
The Consultant in Communicable Disease Control will arrange prophylaxis for close contacts.

3. DEFINITIONS/EXPLANATION OF TERMS USED

- **Antibiotic prophylaxis** - treatment with antimicrobials to prevent/ward off disease e.g. meningococcal infection.

- **Bacteria** - microscopic living organisms, usually one-celled, that can be found everywhere. They can be dangerous, such as when they cause infection, or beneficial, as in the process of fermentation (such as in wine) and that of decomposition.

- **Brundzinski’s sign** – clinical test used to assess the integrity and inherent tension residing within the spinal cord and it’s meninges.

- **Bacterial** – relating to or caused by bacteria.

- **Coryza** - catarrhal inflammation of the mucous membrane in the nose, caused especially by a cold or by hay fever.

- **Fontanelle** - a space between the bones of the skull in an infant or fetus.

- **Immunisation** - make a person immune to infection, typically by inoculation.

- **Inoculation** - the action of inoculating or of being inoculated; vaccination.

- **Kernig’s sign** - clinical test used to assess the integrity and inherent tension residing within the spinal cord and it’s meninges.

- **Meningitis** - inflammation of the meninges (the outer membranes covering the brain and spinal cord). caused by viral or bacterial infection.

- **Meningococcal disease** - is a term referring to meningococcal meningitis, meningococcal septicaemia, or a combination of both.

- **Meninges** - the three membranes (the dura mater, arachnoid, and pia mater) that line the skull and vertebral canal and enclose the brain and spinal cord.

- **Moribund** – a person at the point of death.

- **Nasopharynx** - the upper part of the pharynx, connecting with the nasal
cavity above the soft palate.

- **Paresis** - incomplete or slight paralysis of motor functions.

- **Septicaemia** - blood poisoning, especially that caused by bacteria or their toxins

- **Shock** – same as above Shock is a medical emergency in which the organs and tissues of the body are not receiving an adequate flow of blood.

- **Toxic** – poisonous.

- **Viral** - relating to, or caused by a virus.

- **Virus** - A micro-organism that is smaller than a bacterium. A virus is a small infectious agent that replicates only inside the living cells of other organisms.

4. **RESPONSIBILITIES, ACCOUNTABILITIES AND DUTIES**

Refer to section 4 of the Infection Prevention and Control Manual | RDaSH NHS Foundation Trust

5. **LINKS TO ASSOCIATED POLICIES/DOCUMENTS**

Infection Prevention and Control Manual | RDaSH NHS Foundation Trust

6. **REFERENCES/FURTHER READING**


National Institute for Health and Care Excellence (NICE 2010) guideline Meningitis (bacterial) and meningococcal septicaemia in under 16s: recognition, diagnosis and management . Updated 2015.

7. **APPENDICES**

To access the following Appendices please see IPC Manual homepage. [https://www.rdash.nhs.uk/46192/infection-prevention-and-control-manual/](https://www.rdash.nhs.uk/46192/infection-prevention-and-control-manual/)

**Appendix 36 - Symptoms and signs of bacterial meningitis and meningococcal septicaemia**