The management of meningitis policy

The aim of this policy is to provide guidance to staff employed by Leicestershire Partnership Trust (LPT) with regards to caring for patients who are known or suspected of having meningitis. The policy will describe the different types of meningitis and the relevant care and precautions required with regards to infection prevention and control.

Key Words:	Infection prevention and control, meningitis, septicaemia.	
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1.0 Quick Look Summary

The aim of this policy is to provide guidance to staff employed by LPT with regards to caring for patients who are known or suspected of having meningitis. The policy will describe the different types of meningitis and the relevant care and precautions required with regards to infection prevention and control.

Meningitis is an inflammation of the meninges, there is three different types of meningitis which include Fungal (which is non-infective), viral and bacterial.

Viral meningitis is not usually as serious as bacterial meningitis and often patients will recover on their own without any treatment, although there can be long term effects on a patient's personality.

Bacterial meningitis is not as common as viral meningitis, however if not acted upon immediately can have a life limiting consequences for the patient or even be life threatening. Bacterial meningitis can be treated with appropriate antibiotics.

Meningitis is a notifiable disease and any patients with known or suspected meningitis must be reported immediately to the UK Health Security Agency (UKHSA).

It is imperative that a correct diagnosis is made as soon as possible as the potential outcomes from bacterial and viral meningitis will differ. Patients with a new known or suspected diagnosis of meningitis should be referred immediately to accident and emergency by dialling 999.

1.1 Version Control and Summary of Changes

Version number	Date	Comments
Version 1	2005	Review and rewriting of guideline based on the community infection control guidelines.
Version 2	February 2009	Reviewed and updated in line with national guidance
Version 3	June 2010	Reviewed by Amanda Hemsley and re-written incorporating abbreviations, definitions and associated policies and guidelines, Sent out for comments to link staff for adult and children services, occupational health, HPU, service managers, infection control subcommittee members.
Version 4 Draft 2	July 2010	Comments received and incorporated from: Una Willis-infection control matron, Shelley Jacques-clinical governance lead, Hedi Scott-smith-clinical governance manager, Helen Burchnall-clinical lead for children's physiotherapy, Diane Shields-occupational Health Advisor and Phillip Monk-consultant in communicable diseases.
Version 5 Final copy		Agreed through the clinical Governance committee
Version 6	August 2011	Harmonised in line with LCRHS, LCCHS, LPT (Historical organisations).
Version 7		Updated to review current NICE guidance 102 and in line with format of LPT policies.
Version 8	September 2018	Updated to review current NICE guidance for meningitis. Added information regarding fungal meningitis. Updated information regarding viral and bacterial meningitis. Removed contradictory information regarding source isolation of bacterial meningitis.
Version 9	October 2021	Reviewed and updated in line with national guidance
Version 10 Ext Nov 2026 to allow review	October 2023	Reviewed and updated in line with national guidance, policy moved over to new policy template. Occupational health contact details updated

1.2 Key individuals involved in developing and consulting on the document.

Name	Designation
Accountable Director	Dr Anne Scott
Author(s)	Claire King infection prevention and control nurse
Implementation Lead	Amanda Hemsley Head of infection prevention and control
Core policy reviewer group	Infection prevention and control assurance group
Wider consultation	Infection prevention and control assurance group members

1.3 Governance

Level 2 or 3 approving delivery group	Level 1 Committee to ratify policy
Infection prevention and control assurance Group	Quality and safety committee

1.4 Equality Statement

Leicestershire Partnership NHS Trust (LPT) aims to design and implement policy documents that meet the diverse needs of our service, population, and workforce, ensuring that none are placed at a disadvantage over others. It takes into account the provisions of the Equality Act 2010 and promotes equal opportunities for all. This document has been assessed to ensure that no one receives less favourable treatment on the protected characteristics of their age, disability, sex (gender), gender reassignment, sexual orientation, marriage and civil partnership, race, religion or belief, pregnancy, and maternity.

1.5 Due Regard

LPT will ensure that Due regard for equality is taken and as such will undertake an analysis of equality (assessment of impact) on existing and new policies in line with the Equality Act 2010. This process will help to ensure that:

- Strategies, policies and procedures and services are free from discrimination.
- LPT complies with current equality legislation.
- Due regard is given to equality in decision making and subsequent processes.
- Opportunities for promoting equality are identified.

Please refer to due regard assessment (Appendix 4) of this policy

1.6 Duties within the Organisation

Duties in regard to this policy can be found in the Leicestershire Partnership trust infection prevention and control assurance policy.

Consent

• Clinical staff must ensure that consent has been sought and obtained before any care, intervention or treatment described in this policy is delivered. Consent can be given orally and/ or in writing. Someone could also give non-verbal consent as long as they understand the treatment or care about to take place. Consent must be voluntary and informed, and the person consenting must have the capacity to make the decision.

• In the event that the patient's capacity to consent is in doubt, clinical staff must ensure that a mental capacity assessment is completed and recorded. Someone with an impairment of or a disturbance in the functioning of the mind or brain is thought to lack the mental capacity to give informed consent if they cannot do one of the following:

- Understand information about the decision.
- Remember that information.
- Use the information to make the decision.
- Communicate the decision.

1.5 Definitions that apply to this Policy.

Aseptic Meningitis	Another term used for viral meningitis
Consultant in public health	A consultant who is knowledgeable in infectious diseases and works within the field of public health.
Contact tracing	The identification and diagnosis of a person who may have come into contact with an infected person.
Cerebrospinal fluid (CSF)	The fluid within the subarachnoid space, the central canal of the spinal cord and the four ventricles of the brain.
Haemophilus influenza type B (Hib)	Bacterium capable of causing a range of disease including ear infections, cellulitis (soft tissue infection), upper respiratory infections, pneumonia, and such serious invasive infections such as meningitis with potential brain damage and epiglottitis with airway obstruction, it is spreads by droplets through coughs and sneezing.
Infection	An organism presents at a site and causes an inflammatory response or where an organism is present in a normally sterile site.
Immunocompromised	An immune system that is impaired by disease or treatment where an individual's ability to fight infection is decreased.
immunosuppression	Suppression of the immune response usually by disease or by drugs.
Inflammation	The body's immune reaction to presumed foreign substances like germs. Inflammation is characterised by increased blood supply and activation of defence mechanisms. It can produce redness, swelling, heat and pain.
Meningitis	Inflammation of the meninges (Lining of the brain)
Meningococcal bacteria	Meningococcal disease is any infection caused by meningococcal bacteria.
Neisseria Meningitides	Neisseria meningitides is a heterotrophic gram-negative diplococcal bacterium best known of its role in meningitis and other forms of meningococcal disease such as Meningococcaemia.
Fungal Meningitis	This is a very rare form of meningitis caused by fungal infection spreading from elsewhere in the body to the brain or spinal cord. Mainly limited to people who have impaired immune systems such as those with cancer or those who have had surgical procedures.
Organisms	This is defined as any living thing, in medical terms bacteria and viruses are referred to as organisms.
Outbreak	The occurrence of two or more cases of the same infection linked in time and place or the situation when the observed number of cases exceeds the number expected.
Polymerase Chain Reaction (PCR)	A laboratory technique for rapidly synthesising large quantities of a specific DNA segment.

Personal Protective Equipment (PPE)	Specialised clothing or equipment worn by employees for protection against health and safety hazards, gloves, aprons, gowns, masks, and eye protection.
Sepsis	Sepsis is the body's overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure and death. Your body's overactive and toxic response to an infection.
Source isolation	Isolation for the control of infection is used to prevent infected patients from infecting others.
Streptococcus pneumonia	The bacteria that most often causes pneumonia
Symptomatic	Physical or mental signs of disease

2.0. Purpose and Introduction

The aim of this policy is to provide guidance to staff employed by LPT with regards to caring for patients who are known or suspected of having meningitis. The policy will describe the different types of meningitis and the relevant care and precautions required with regards to infection prevention and control.

Meningitis is an inflammation of the meninges, there is three different types of meningitis which include Fungal (which is non-infective), viral and bacterial.

Viral meningitis is not usually as serious as bacterial meningitis and often patients will recover on their own without any treatment, although there can be long term effects on a patient's personality.

Bacterial meningitis is not as common as viral meningitis, however if not acted upon immediately can have a life limiting consequences for the patient or even be life threatening. Bacterial meningitis can however be treated with appropriate antibiotics.

Meningitis is a notifiable disease and any patients with known or suspected meningitis must be reported immediately to the UK Health Security Agency (UKHSA).

It is imperative that a correct diagnosis is made as soon as possible as the potential outcomes from bacterial and viral meningitis will differ. Patients with a new known or suspected diagnosis of meningitis should be referred immediately to the accident and emergency department by dialling 999.

The purpose of this policy is to ensure that all staff employed by LPT are aware of the correct procedures and precautions to take when caring for patients with known or suspected meningitis.

This policy will ensure that all staff employed by LPT are providing evidence-based care which is in accordance with the health and social care act (2015) and the latest guidance provided by the UK Health Security Agency (UKHSA).

3.0 The management of suspected or confirmed Meningitis.

Meningitis is the inflammation of the protective membranes covering the brain and spinal cord, this covering is called the meninges. The inflammation can be caused by bacteria, viruses, fungi, or parasites. Both bacterial and viral meningitis will present in the same way and the clinical history, examination and investigations will be the same. However, following the findings of the clinical investigations, the specific treatment and prognosis are different.

It is imperative that a correct diagnosis is made as soon as possible as the potential outcomes from bacterial and viral meningitis will differ.

Patients with newly diagnosed known or suspected meningitis should be referred immediately to the acute emergency services by dialling 999.

It is thought that the number of cases of meningitis in the UK is widely underreported despite it being a notifiable disease (Please refer to the infection prevention and control 'The reporting of known or suspected infectious diseases to the UK health security agency' policy)

It is essential that all cases of meningitis are notified immediately to the UK health security agency (UKHSA) (East midlands branch), their contact details are as follows:

Telephone- 0344 225 4254 (option 1)

Ask for the doctor on call for public health who will decide which contacts should be offered antibiotic chemoprophylaxis or vaccination.

*** Do not** wait until a microbiological diagnosis has been made*

Source isolation precautions should be commenced immediately if meningitis is suspected but the type is not known.

3.1 Fungal meningitis

Fungal meningitis is very serious but also very rare and mainly limited to people who have impaired immune systems, such as people with cancer or those who have had surgical procedures.

Fungal meningitis is not contagious and therefore source isolation precautions are not necessary.

3.2 Viral meningitis

Vira meningitis is more common; however, it is usually self-limiting and generally has no long-term physical effects. If you have been in close contact with a patient who has viral meningitis you are at risk of contracting the virus that caused the meningitis, but unlikely to contract viral meningitis itself.

There can however be aftereffects of viral meningitis such as:

- Exhaustion
- Headaches
- Memory loss
- Anxiety
- Depression
- Dizziness/balance problems
- Hearing difficulties
- Mood swings
- Aggression

These changes may not be immediately apparent following viral meningitis, they can take months or even years to develop.

The viruses that can cause viral meningitis are:

- Non-polio enteroviruses
- Mumps Virus
- Herpes virus, including Epstein-Barr virus, herpes simplex virus and Varicella zoster virus.
- Measles virus
- Influenza virus
- Arboviruses
- Lymphocytic choriomeningitis virus

Most people with viral meningitis usually recover without treatment within 7-10 days.

Although the viruses which cause these diseases tend to be highly infectious (As they are shed in respiratory secretions and/or faeces). They rarely result in cross infection resulting in meningitis. Most contacts will have a mild respiratory infection and will not have meningitis, viruses can be transmitted by the faecal oral route or by direct close contact.

The period of infectivity to others is before and during acute illness and as the virus can be transmitted to others, source isolation precautions should be implemented until the patient has clinically recovered, which will be determined by the clinician caring for the patient or the patient is discharged home.

It is difficult to be prescriptive as to when a patient is deemed to be clinically recovered as each patient will present differently, but the lack of symptoms such as vomiting, loose stools, a cough or sneezing would be an indicator to the clinician caring for the patient, alongside a holistic overview of the patient's condition that the patient is recovering.

3.3 Bacterial Meningitis

This type of meningitis whilst not as common as viral meningitis is much more serious. If not recognised early it can have severe life limiting outcomes such as brain damage, hearing loss, learning disabilities. Limb loss and it can In some cases lead to the death of the patient.

Bacterial meningitis is an infection of the surface of the brain (Meninges) by bacteria that have usually travelled there from mucosal surfaces via the bloodstream.

There are several types of bacteria that can cause meningitis:

- Streptococcus pneumoniae
- Group B streptococcus
- Neisseria Meningitis
- Haemophilus influenza
- Listeria monocytogenes

Common causes of bacterial meningitis vary by age group:

- **Newborns** Group B streptococcus, Streptococcus pneumoniae. Listeria monocytogenes, Escherichia coli.

- **Babies & children** streptococcus pneumoniae, Neisseria meningitidis, Haemophilus influenza type b (Hib), Group B streptococcus.

- **Teens & young adults** Neisseria meningitidis, Streptococcus pneumoniae

- **Older adults** Streptococcus pneumoniae, Neisseria meningitidis, haemophilus influenza type b (Hib), group B streptococcus, Listeria monocytogenes.

It is important that once meningitis is suspected whether it is viral or not that antibiotics are administered as soon as possible to ensure the best outcome for the patient. It will be difficult initially to determine whether the meningitis is viral or bacterial in nature, although viral meningitis is generally less severe in presentation. However, a delay in treatment for bacterial meningitis can be fatal or result in amputation of limbs for the patient, therefore antibiotics should be administered on clinical suspicion of meningitis and then tests undertaken to determine the diagnosis.

Patients diagnosed with bacterial meningitis **should have source isolation precautions commenced immediately**. These should remain in place until appropriate antibiotics have been administered for a minimum of 24 hours.

Some types of meningitis may in fact be non-infectious after a shorter treatment period with antibiotics but as the antibiotics should be administered prior to the diagnosis being confirmed, ensuring that the source isolation precautions are

continued for this time will guarantee that the patient is no longer infectious and therefore that other patients are not at risk.

Bacterial meningitis can be spread by close contact with respiratory droplets, healthcare workers are not at a higher risk of contracting the disease than other persons unless they have been directly exposed to the patients' oral secretions i.e., through mouth-to-mouth resuscitation, which is not encouraged within LPT, endotracheal intubation or endotracheal tube management.

The decision to administer prophylaxis treatment to close contacts of the patient will be taken in consultation with the infection prevention and control team an UKHSA.

As a general rule, close contacts are defined as those persons:

- Living with an infected patient
- Having a recent history of kissing contact or mouth-to-mouth resuscitation
- Involved in procedures such as emergency intubation.

3.4 Signs & symptoms of meningitis

As previously discussed, it can be difficult to differentiate between viral and bacterial meningitis as the symptoms are very similar:

- Fever (with cold hands and feet)
- Irritability (especially in babies)
- Poor appetite
- Sleepiness or trouble waking from sleep.
- Lethargy
- Headache
- Stiff neck (Nuchal rigidity)
- Sensitivity to bright light
- Nausea
- Vomiting
- Eye discomfort in bright lights (Photophobia)
- Change in mental status.
- Pale blotchy skin, spots, or rash

The signs and symptoms on their own might not alert health professionals to a meningitis diagnosis. However, when a patient presents with a combination of the signs and symptoms as detailed above, medical and healthcare staff should be alerted to the likely possibility of a diagnosis of meningitis and immediate action taken.

The clinical presentation may also differ between different populations, for example the elderly population are more likely to have an altered conscious level but less

likely to have a neck stiffness or fever: however, this may not always be the case.

Patients with pneumococcal disease are more likely to have seizure, focal neurological symptoms, and a reduced conscious level (as determined by the Glasgow coma scale).

Patient with Neisseria meningitis are more likely to present with a rash.

4.0 Diagnosing Meningitis

The following investigations must be sent urgently to microbiology:

- Throat swab (For Neisseria Meningitides)
- Throat swab for viral culture
- Blood culture
- CSF (Where appropriate) for bacterial culture and viral investigations and PCR
- Blood in EDTA (Full blood count bottle) for Neisseria Meningitides and streptococcus pneumonia PCR
- Serum (5ml clotted blood) for antibody test
- Faeces sample for viral culture

Treatment must not be delayed for the test result

A comparison of CSF results helps distinguish between bacterial and viral causes:

	Glucose	**Protein**	**WBC**	**Type of cells**
Bacterial	Normal to decreased	Increased	> 1000/mm^3	Neutrophils
Viral	Normal	Normal to increased	< 100/ mm^3	Lymphocytes

If the patient has not had any antibiotics, the gram stain in bacterial meningitis will be positive, whereas it will be negative for viral meningitis. Bacterial antigen tests and cultures will further determine the specific organisms.

Some age groups of the population are more susceptible to different types of meningitis, listeria or pneumococcal disease is more common in the elderly population, viral meningitis is more common in people aged in their 20’s and meningococcal infection is more common in adolescents and young adults.

5.0 Staff contact with meningitis.

If any staff are in contact with patients with known or suspected meningitis and are concerned, they should contact occupational health on:

Telephone: 01162585307

6.0 References and Bibliography

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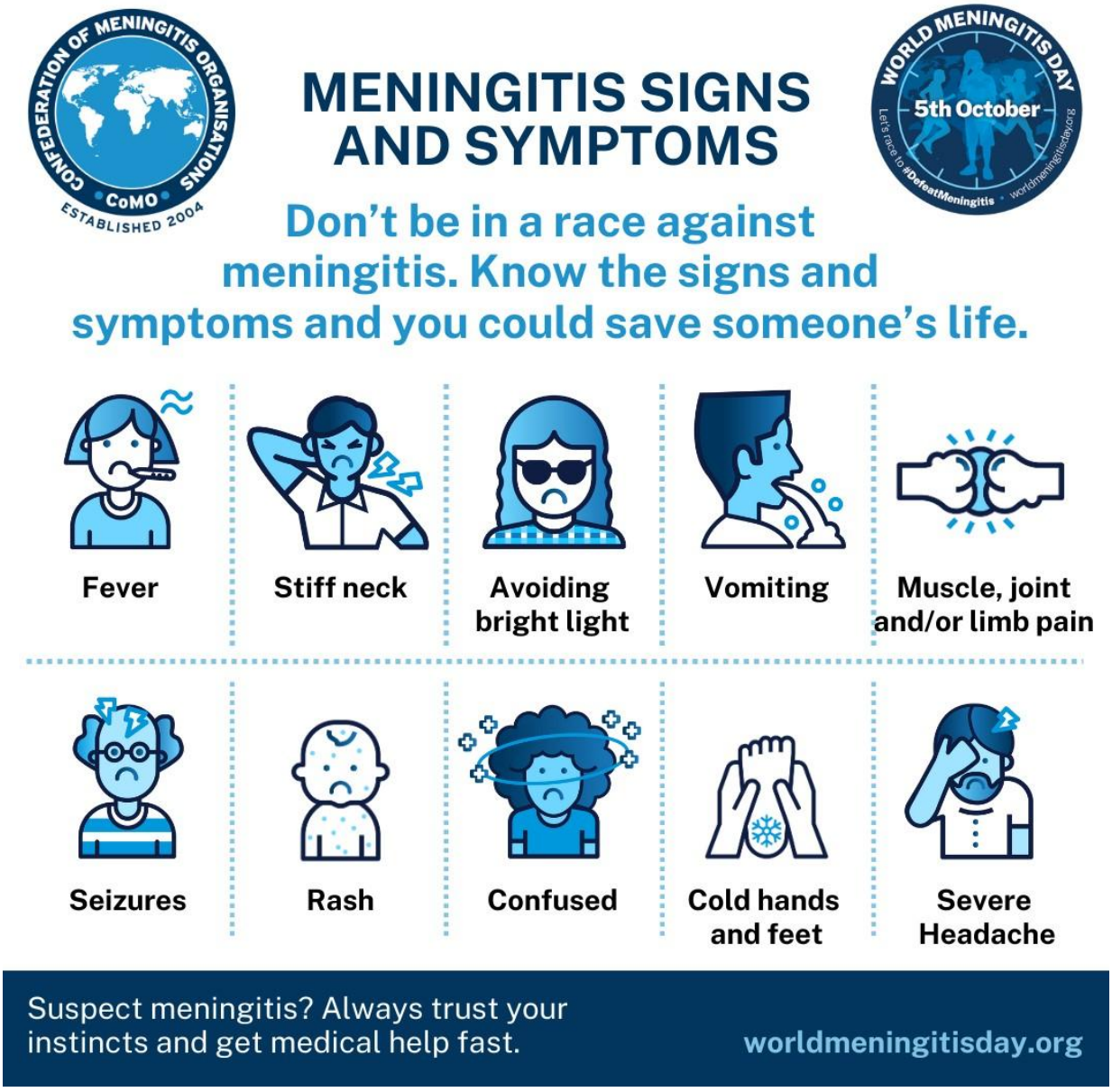
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5.0 Monitoring Compliance and Effectiveness

Monitoring and compliance with this policy is outlined in the LPT infection prevention and control assurance policy.

Appendix 1 Meningitis signs and symptoms



Confederation of meningitis organisations: International meningitis charity | Confederation of Meningitis Organisations (comomeningitis.org) 2023

Appendix 2 Training Requirements

Training Needs Analysis

Training topic:	No training needs have been identified
Type of training: (see study leave policy)	☐ Mandatory (must be on mandatory training register) ☐ Role specific ☐ Personal development
Directorate to which the training is applicable:	☐ Mental Health ☐ Community Health Services ☐ Enabling Services ☐ Families Young People Children / Learning Disability Services ☐ Hosted Services
Staff groups who require the training:	
Regularity of Update requirement:	
Who is responsible for delivery of this training?	
Have resources been identified?	
Has a training plan been agreed?	
Where will completion of this training be recorded?	☐ ULearn ☐ Other (please specify)
How is this training going to be monitored?	

Appendix 3 The NHS Constitution

- The NHS will provide a universal service for all based on clinical need, not ability to pay.
- The NHS will provide a comprehensive range of services.

Shape its services around the needs and preferences of individual patients, their families and their carers	x
Respond to different needs of different sectors of the population	x
Work continuously to improve quality services and to minimise errors	x
Support and value its staff	*x*
Work together with others to ensure a seamless service for patients	x
Help keep people healthy and work to reduce health inequalities	x
Respect the confidentiality of individual patients and provide open access to information about services, treatment and performance	x

Appendix 4 Due Regard Screening Template

Section 1	
Name of activity/proposal	The management of meningitis policy
Date Screening commenced	27-10-2023
Directorate / Service carrying out the assessment	Enabling-Infection prevention and control team
Name and role of person undertaking. this Due Regard (Equality Analysis)	Claire King infection prevention and control nurse
Give an overview of the aims, objectives, and purpose of the proposal:	
AIMS: To ensure that this policy meets the needs of the patients receiving care within LPT in relation to meningitis.	
OBJECTIVES: Is to review and ensure that the policy reflects compliance with updates in treatment guidance as well as providing guidance in treatment and management of patients with known or suspected meningitis infection.	

Section 2	
Protected Characteristic	If the proposal/s have a positive or negative impact, please give brief details
Age	None identified
Disability	None identified
Gender reassignment	None identified
Marriage & Civil Partnership	None identified
Pregnancy & Maternity	None identified
Race	None identified
Religion and Belief	None identified
Sex	None identified
Sexual Orientation	None identified
Other equality groups?	None identified

Section 3	
Does this activity propose major changes in terms of scale or significance for LPT? For example, is there a clear indication that, although the proposal is minor it is likely to have a major affect for people from an equality group/s? Please tick appropriate box below.	
Yes	No x
High risk: Complete a full EIA starting click here to proceed to Part B	Low risk: Go to Section 4.

Section 4			
If this proposal is low risk, please give evidence or justification for how you reached this decision:			
Signed by reviewer/assessor	Claire king	Date	09-11-2023
Sign off that this proposal is low risk and does not require a full Equality Analysis			
Head of Service Signed	Emma Wallis	Date	9 November 2023

Appendix 5 Data Privacy Impact Assessment Screening

Data Privacy impact assessment (DPIAs) are a tool which can help organisations identify the most effective way to comply with their data protection obligations and meet Individual's expectations of privacy. The following screening questions will help the Trust determine if there are any privacy issues associated with the implementation of the Policy. Answering 'yes' to any of these questions is an indication that a DPIA may be a useful exercise. An explanation for the answers will assist with the determination as to whether a full DPIA is required which will require senior management support, at this stage the Head of Data Privacy must be involved.			
Name of Document:	The Management of meningitis policy		
Completed by:	Claire King		
Job title	Infection prevention and control		**Date 27-10-2023**
Screening Questions		**Yes / No**	**Explanatory Note**
1. Will the process described in the document involve the collection of new information about individuals? This is information in excess of what is required to carry out the process described within the document.		N	
2. Will the process described in the document compel individuals to provide information about them? This is information in excess of what is required to carry out the process described within the document.		N	
3. Will information about individuals be disclosed to organisations or people who have not previously had routine access to the information as part of the process described in this document?		N	
4. Are you using information about individuals for a purpose it is not currently used for, or in a way it is not currently used?		**N**	
5. Does the process outlined in this document involve the use of new technology which might be perceived as being privacy intrusive? For example, the use of biometrics.		N	
6. Will the process outlined in this document result in decisions being made or action taken against individuals in ways which can have a significant impact on them?		N	
7. As part of the process outlined in this document, is the information about individuals of a kind particularly likely to raise privacy concerns or expectations? For examples, health records, criminal records or		N	

other information that people would consider to be particularly private.		
8. Will the process require you to contact individuals in ways which they may find intrusive?	**N**	
If the answer to any of these questions is 'Yes', please contact the Data Privacy Team via Lpt-dataprivacy@leicspart.secure.nhs.uk In this case, ratification of a procedural document will not take place until review by the Head of Data Privacy.		
Data Privacy approval name:	**n/a**	
Date of approval		

Acknowledgement: This is based on the work of Princess Alexandra Hospital NHS Trust