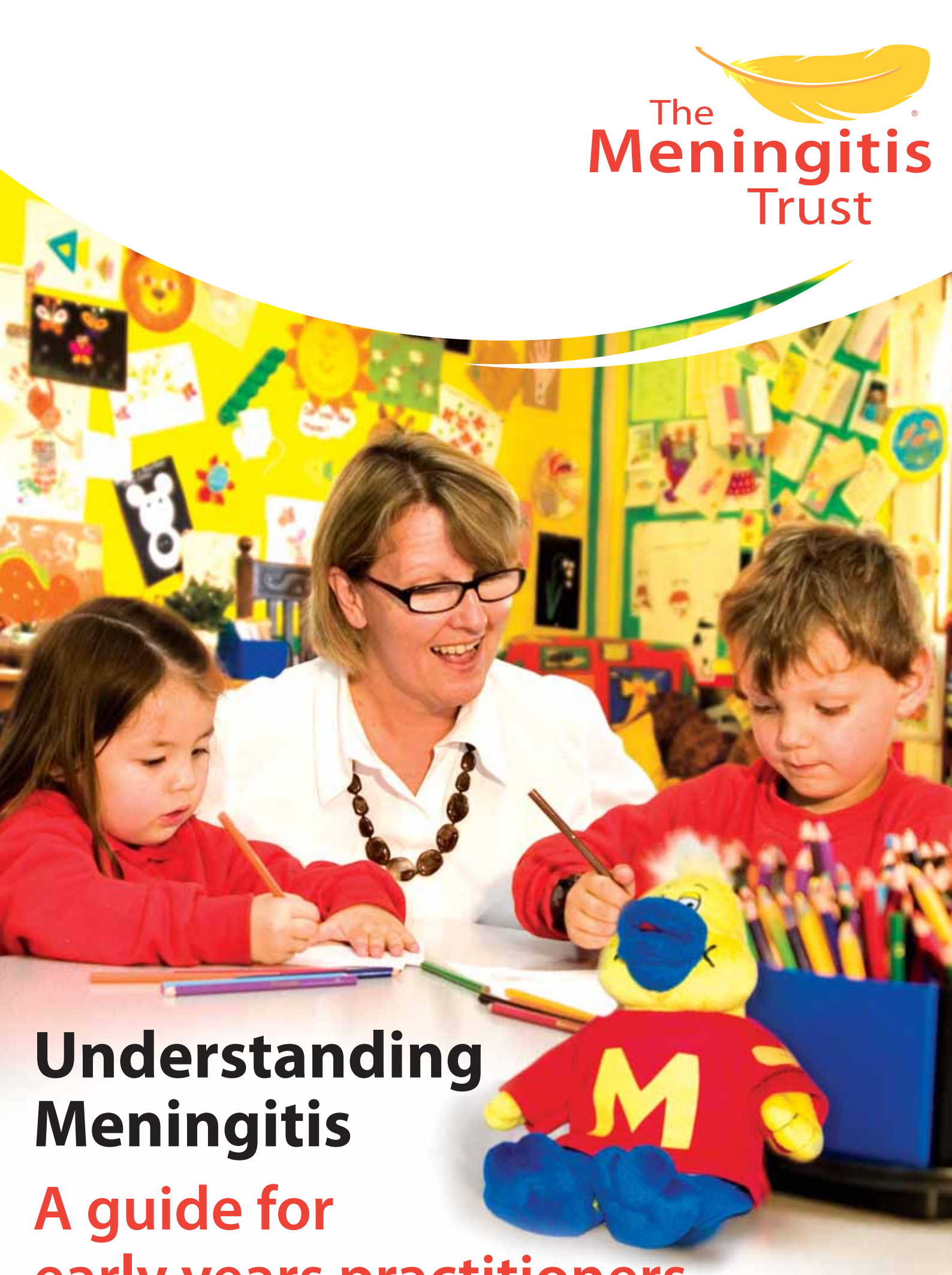
The Meningitis Trust



Understanding Meningitis

A guide for early years practitioners

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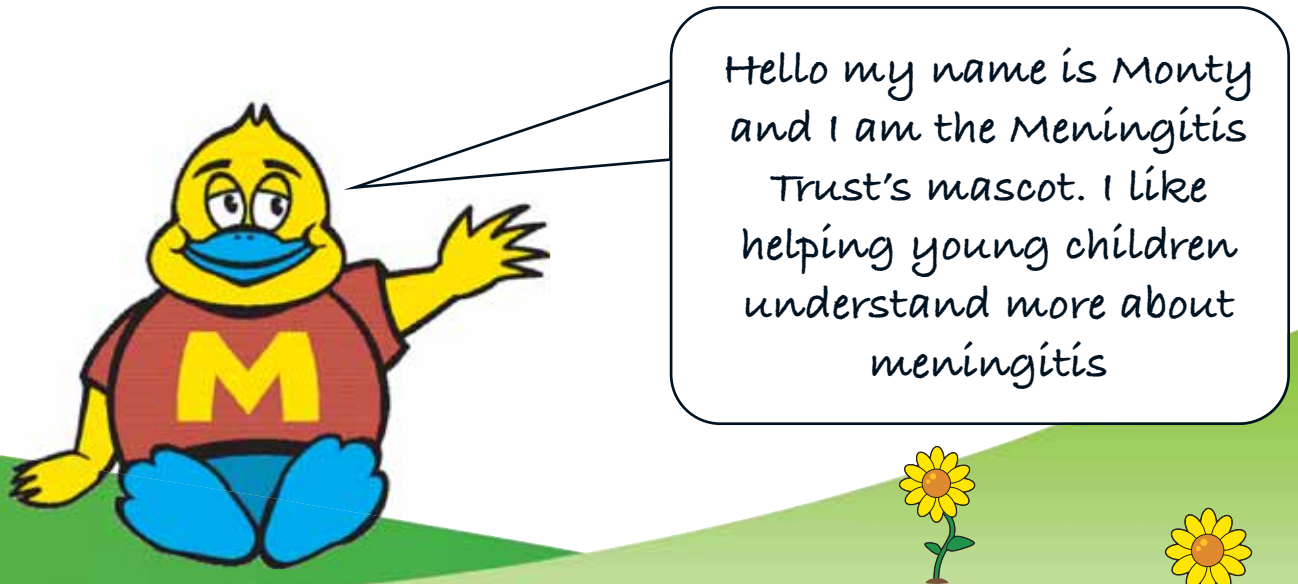


Introduction

Welcome to the Meningitis Trust's information guide for early years practitioners.

Meningitis and related septicaemia (blood poisoning) are serious diseases that can affect anyone at any time. Although they are uncommon, they can strike unexpectedly, especially in babies and young children. The speed at which people become ill, and the dramatic and sometimes devastating course of events, make meningitis and septicaemia alarming diseases.

This guide provides you with the information you need about these diseases and offers practical guidance on what course of action to take if a case occurs in your early years setting.

From this guide you will learn about the signs and symptoms of meningitis and the after-effects and complications that can result. You will also come to understand the importance of treatment with antibiotics and prevention with vaccines.

For ease of reference the following terms are used throughout the guide:

- The term child or children is used to refer to babies, infants and children under 5.
- The term early years practitioner is used to refer to all those delivering care and education to children under 5.
- The term early years setting is used to refer to all establishments caring for children under 5, for example, nurseries, playgroups and crèches.
- The word meningitis is used as a general term to refer to meningitis and meningococcal septicaemia.

If you have any questions about this guide, or require further information, please call 0800 028 18 28.

What is meningitis?

Meningitis is a term used to describe inflammation (swelling) of the layers (meninges) that surround the brain and the spinal cord. These layers protect the brain from injury and infection. Meningitis can occur when an organism (germ) enters the bloodstream and travels to the lining of the brain. The major causes of meningitis are organisms called bacteria and viruses. Other organisms such as fungi can also cause meningitis.

What is septicaemia?

Septicaemia occurs when the bacteria in the bloodstream multiply rapidly and cause infection. When these bacteria break down and die they release large amounts of toxins (poisonous chemicals). These can cause extensive damage to the tissues and organs of the body. Septicaemia is generally more life-threatening than meningitis and can lead to organ failure and loss of limbs.

There are over 1000 cases of bacterial meningitis reported per year in the under 5s in the UK. Although relatively rare, the speed at which children become ill, and the dramatic and sometimes devastating effects make it a terrifying disease. Having a good knowledge and understanding of meningitis and being able to recognise the signs and symptoms early, as well as getting medical attention quickly, may save lives. Although cases can occur throughout the year, the majority of cases occur during the winter months.

What causes meningitis?

The most common germs that cause meningitis are viruses and bacteria.

Bacterial meningitis

Many different bacteria can cause meningitis. Detailed below are the bacteria that commonly cause meningitis in children. Bacterial meningitis is potentially fatal and requires urgent medical attention.

Meningococcal bacteria are the most common cause of bacterial meningitis. The bacteria are organised into five main groups: A, B, C, W135 and Y. In the UK, approximately 90% of all cases are caused by group B. Group C, although less common, also causes a number of cases. We rarely see meningitis caused by the other groups (A, W135 and Y), although they do cause many cases in other parts of the world. All these groups are equally serious and potentially fatal. Meningococcal bacteria can cause meningitis and septicaemia. Together these are known as meningococcal disease. There are an estimated 850 reported cases of meningococcal disease in the under 5s every year in the UK. Approximately 7% who get meningococcal disease will die and 10-15% of survivors will suffer severe after-effects such as loss of limbs, brain damage and deafness.

Pneumococcal bacteria are the second most common cause of bacterial meningitis. There are as many as 90 different strains, but only a small number of these commonly cause meningitis in children. These bacteria can also cause a number of other infections including septicaemia, septic arthritis, otitis media, glue ear, sinusitis, pneumonia and chest infections. Together these infections are called pneumococcal disease. Pneumococcal meningitis is most common in children under 18 months of age. There are an estimated 200 cases in children every year in the UK. Around 20% of those who get pneumococcal meningitis will die and a further 25% will suffer severe after-effects such as deafness, long term neurological complications and where septicaemia has occurred, loss of limbs.

Hib (Haemophilus influenzae type b) bacteria used to be the most common cause of meningitis in children under 5. These bacteria can also cause a number of other infections including septicaemia and epiglottitis (inflammation of the upper airways). Together these infections are called Hib disease.

Viral meningitis

Viral meningitis is far more common than bacterial meningitis. Although rarely life threatening, it can be very debilitating. Numerous viruses can cause meningitis, the most common are called enteroviruses. Enteroviruses live commonly in the intestines and can be transferred through poor hygiene, for example, not washing your hands after going to the toilet. It is important to remember to wash your hands before and after changing babies' nappies. Always wear gloves and dispose of nappies appropriately. Keep your environment clean at all times and pay special attention to changing areas.

How easy is it to catch meningitis?

The germs that cause bacterial meningitis usually live harmlessly in the back of the throat and are passed from person to person through coughing, sneezing and intimate kissing. Most of us will carry them at some stage in our lives without becoming ill and they help us build up natural immunity. Occasionally, these germs bypass the body's defences and cause infection.

The incubation period for bacterial meningitis is between 2 -10 days. This is the time between exposure to the bacteria and the appearance of symptoms. Most cases happen alone, but if there is a case in your early years setting, there is a small chance that further cases can happen. This is when you need to be alert to the signs and symptoms.

There are a number of risk factors associated with meningitis:

Smoking

- Smokers are more likely to carry the bacteria in the back of their throats.
- Children who live in a smoky environment will be more vulnerable to acquiring the bacteria and are at more risk of disease.

Severe overcrowding

Prolonged close contact leads to easier transmission of bacteria.

Why are babies and young children more at risk?

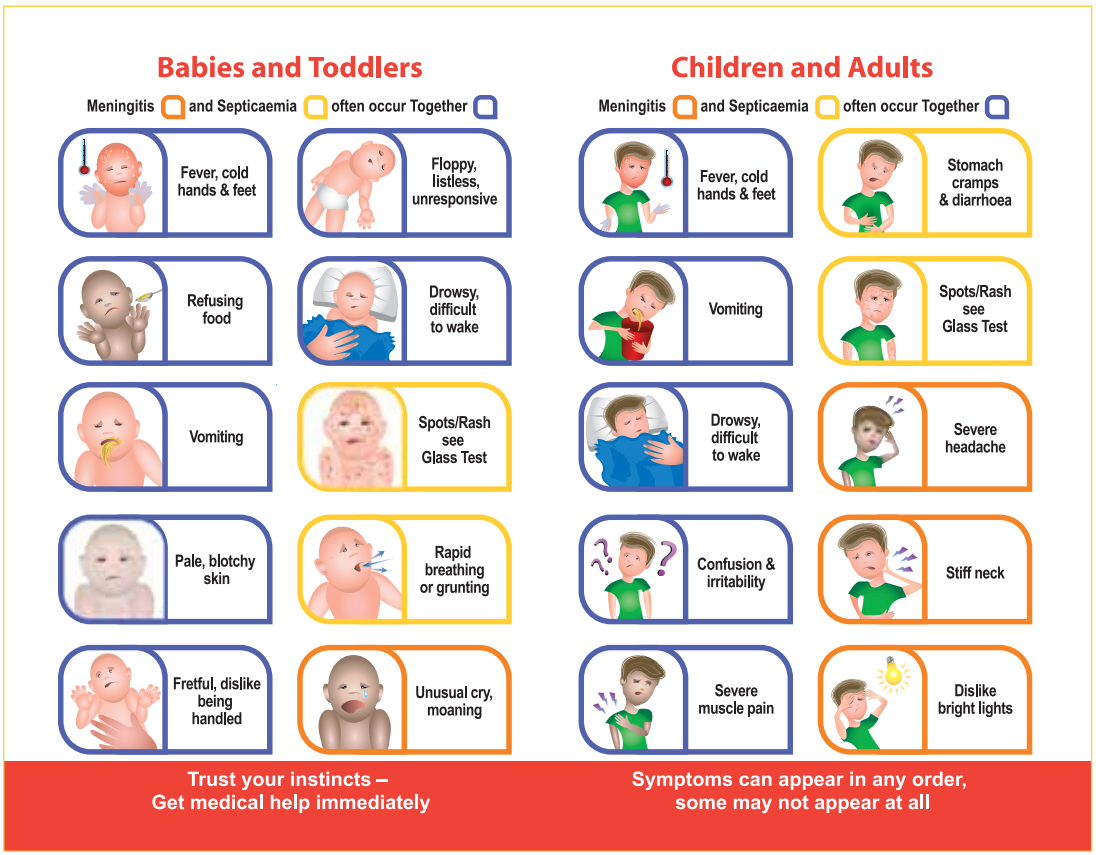
Children, and particularly babies under the age of 18 months, are more at risk because their immune systems are not fully developed. If the bacteria invade the body, their immune systems cannot fight off infection.

Certain babies and children are more at risk because they are born with problems associated with their immune systems. In addition, children with a damaged or absent spleen (an organ of the body that acts in the natural resistance to infection) are also more at risk.

What are the signs and symtoms of meningitis?

Meningitis is not always easy to spot at first. Initially, the signs and symptoms may be similar to a number of other non life-threatening childhood infections, for example, an ear infection or flu. Early signs and symptoms include high temperature, nausea and vomiting, diarrhoea, irritability, poor appetite/refusing to feed and general tiredness. The onset of the disease can be slow. However, deterioration is often rapid.

As children are often unable to tell you how they are feeling, it is important that you are aware of the more specific symptoms of meningitis and septicaemia. As carers you need to be guided by your knowledge and instinct, as meningitis and septicaemia are medical emergencies. Here are the danger signs:



What about the rash?

One sign of meningococcal septicaemia is a rash that does not fade under pressure (see Glass Test).

Glass Test

Press the side of a clear glass firmly against the skin

- This rash is caused by blood leaking into the tissues under the skin. It starts as tiny pinpricks anywhere on the body. It can spread quickly to look like fresh bruises.
- This rash is more difficult to see on darker skin. Look on paler areas of the skin and under the eyelids.

Septicaemic rash

If someone is ill or obviously getting worse, do not wait for a rash. It may appear late or not at all.

A fever with a rash that does not fade under pressure is a medical emergency.

Trust your instincts. Get medical help immediately.

What happens if there is a case of meningitis in my early years setting?

In the rare event that there is a case in your early years setting, you must be prepared to manage the situation as effectively as possible. If you suspect that a child in your care is displaying any of the signs and symptoms of meningitis then you must:

1. Act quickly to get urgent medical attention by contacting the child's GP immediately. If the GP is not available you should take the child straight to the nearest Accident and Emergency department or dial 999.
2. Contact the child's parents and inform them of your concerns and your actions. Inform them that you need to escort the child to hospital if the parents are some distance away.
3. Reassure staff and parents that cases are usually isolated and the likelihood of a second case of meningitis is extremely small. A case of meningitis in any early years setting, even the rumour of a suspected case, can cause panic and disruption among staff and parents.
4. A doctor who specialises in the public health management of infectious diseases will give you official notification that public health action is required. You will be advised of further appropriate action to take as each case is treated individually.
5. There is no reason to close the early years setting. However, some parents may choose to keep their children at home.
6. There is no need to destroy or disinfect any equipment or toys that the child has touched.
7. The public health team (doctors and nurses) will liaise with the person in charge of the early years setting to offer advice and guidance at all times.
8. The public health team will usually issue a letter to other parents to let them know about the situation and to give information on meningitis.
9. In cases of meningococcal disease, antibiotics may be offered to persons considered to be close contacts. These are usually immediate family members or household contacts. Antibiotics are given to kill the bacteria that may be carried in the back of the throat; this reduces the risk of passing the bacteria on to others. In certain situations a vaccine may be offered. These actions are co-ordinated by the public health team.
10. The likelihood of a second case of meningitis is extremely small. However, if two or more cases occur within four weeks in the same early years setting, then antibiotics may be offered to all children and staff, on the advice from the public health doctor. During this time you should remain alert to the signs and symptoms. Parents should be advised to contact their GP if they are concerned or worried that their child is unwell.
11. If a child is taken ill at home and meningitis is suspected, you may be contacted by a parent or carer to let you know of the illness and the public health team may also contact you (see points 7-10).

How is meningitis treated?

Bacterial meningitis and septicaemia need emergency medical treatment with antibiotics and rapid admission to hospital. If treated promptly with antibiotics, meningitis and septicaemia are less likely to become life threatening. Whilst in hospital other treatment, procedures and investigations will be carried out depending on the child's condition. The earlier treatment is started, the better the outcome is likely to be.

If a child becomes seriously ill, specialist care and treatment in an intensive care unit will be required. Here the doctors and nurses can closely monitor the child's condition, respond to emergencies and provide immediate support when it is needed.

Most children with meningitis and septicaemia will need to stay in hospital for at least a week; this could be much longer if they have been critically ill. During this time family members will need a great deal of support to get them through this frightening experience.

Is viral meningitis treated differently?

Viral meningitis is treated differently because viruses do not respond to antibiotics. If a patient requires hospitalisation, treatment is usually based on rest and medicines to ease the symptoms, for example, painkillers for headaches.

The Meningitis Trust can provide further information and support through the 24 hour freephone nurse-led helpline on **0800 028 18 28**. Information is distributed free of charge. Alternatively information can be found at the Trust website: **www.meningitis-trust.org**.

Can meningitis be prevented?

Vaccination is the only way to prevent meningitis. Effective vaccines are available to prevent some types of meningitis but until we have vaccines for all types, you must be aware of the signs and symtoms.

What are vaccines and how do they work?

Vaccines are given to help the body's immune system fight disease. They contain tiny parts of germs (bacteria or viruses) that can cause disease or tiny amounts of the toxins they produce. On the surface of germs are substances called antigens and these are present in vaccines. When the vaccine is injected into the body, the immune system produces antibodies that recognise these antigens. Each different germ produces its own specific antigen and the immune system needs to produce a specific antibody to recognise it. Therefore, a different vaccine is needed to protect against each different germ. Following vaccination, if someone comes into contact with the germ, the body will recognise it and have the ability to fight it. Some vaccines may need to be given more than once to build up enough protection.

Are vaccines safe?

Before a vaccine can be licensed for use in the UK, it is thoroughly tested for its safety and effectiveness. All the vaccines available to prevent meningitis have now been used for many years and millions of doses have been given. Vaccines are constantly monitored to ensure that any adverse reactions and side effects are recorded for further investigation.

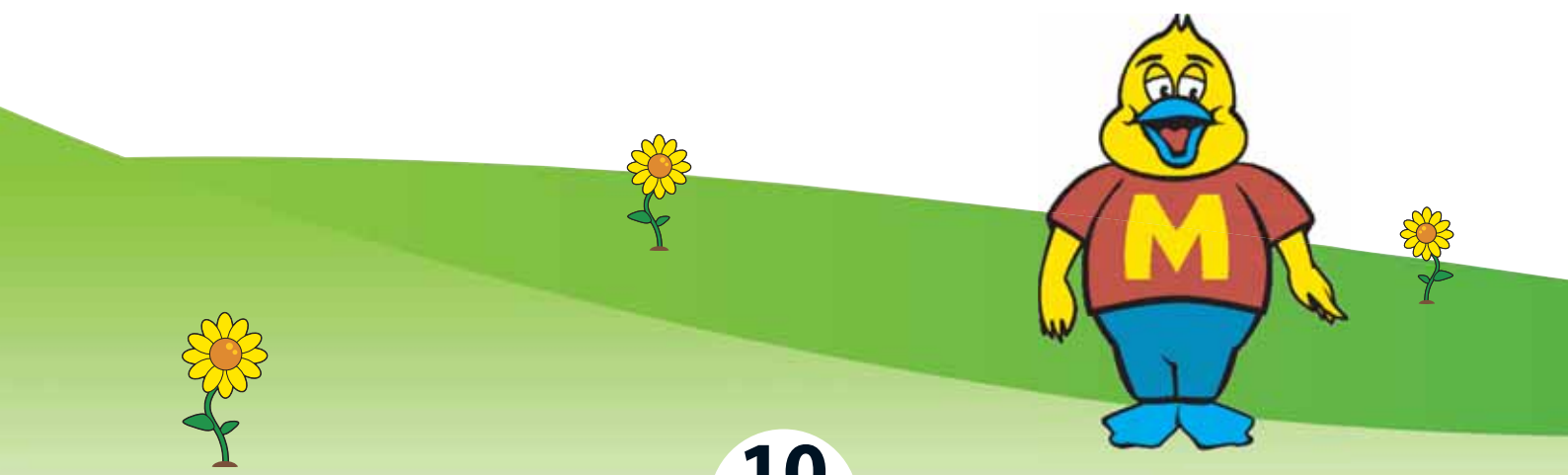
Common symptoms that can occur following vaccination, for example, fever or redness and swelling around the injection site, are natural reactions of the body's immune system. These symptoms will usually subside in a very short period of time, and are a good indicator of a successful vaccination.

How effective are the vaccines?

Vaccines have been very successful in reducing the number of cases of meningitis, with thousands of lives being saved as a result. In the UK, many diseases are no longer a threat and this is because of the high immunisation rates. Vaccines do not just offer protection to the person receiving them, but also help to protect others in the community, particularly children, who for medical reasons cannot be immunised.

Can vaccinations give you meningitis?

Meningitis vaccines cannot cause meningitis. The vaccines only use tiny parts of dead bacteria or the toxins they produce.



What vaccines are available to protect against meningitis?

The following vaccines provide protection against the three major bacteria that can cause meningitis. These vaccines are offered to all children in the UK as part of the Childhood Immunisation Programme.

Hib

Hib is part of the combined vaccine that protects against diptheria, tetanus, pertussis (whooping cough), polio and Hib. This combined vaccine is offered to babies at 2, 3 and 4 months of age. A Hib booster is offered at 12 months of age.

MenC

MenC is offered to babies at 3 and 4 months of age, with a booster dose given at around 12 months of age. The booster vaccine is a combined vaccine for Hib and MenC.

There is no vaccine to prevent meningococcal group B disease, which causes the most cases of bacterial meningitis in the UK.

Pneumococcal (PCV)

Pneumococcal vaccine is offered to babies at 2, 4 and 13 months of age.

Viral

Some viruses that cause diseases such as measles and mumps, can also cause meningitis. The routine MMR vaccine protects against measles, mumps and rubella (German measles). Before its introduction, mumps was the most common cause of viral meningitis in children. MMR vaccine is given at around 13 months of age with a booster dose before the age of five.

Travel vaccines

Travel vaccines are available to prevent some groups of meningococcal disease. Group A causes epidemics in sub Saharan Africa and results in thousands of deaths each year. In recent years, group W135 has caused outbreaks in pilgrims travelling to the Haj in Saudi Arabia, and it is now a legal requirement that these visitors are vaccinated against W135. Two different vaccines are available if you are travelling to at risk areas of the world, one protects against groups A and C, the other protects against groups A, C, W135 and Y. These vaccines offer protection which lasts for three to five years, but they are not effective in infants and young children. Your doctor's surgery or health centre will have specific, up-to-date information on all vaccines needed before travelling.

For more information about vaccination please call our 24 hour nurse-led helpline 0800 028 18 28.

Are there any complications or after-effects of meningitis?

The majority of children who get meningitis and septicaemia will make a full recovery. However, in some instances complications and after-effects will occur. The physical after-effects of meningitis and septicaemia can be temporary or permanent. They can range from mild, through to moderate or severe. When the complications are severe, children can be left with serious and permanent disability.

The exact number of people who experience after-effects is not known. The length and severity of these after-effects can vary depending on the organism. For example, the complications of pneumococcal meningitis are more likely to be long lasting and more severe than other bacterial causes of meningitis in children.

Of course death is the most devastating outcome. The death of a child can have a profound and long lasting effect on families and the wider community. This can be a traumatic and emotional experience for carers in any early years setting, and support from colleagues will be essential. Everyone should be allowed to grieve and deal with their bereavement. The Meningitis Trust has a 24 hour nurse-led freephone helpline for staff and parents providing support and information for all. Call 0800 028 18 28.

After-effects of meningitis and septicaemia

The after-effects of meningitis usually happen because of damage to various areas of the brain. The majority of these complications are well recognised and include: hearing loss or deafness, visual impairment or blindness, epilepsy, cerebral palsy, learning difficulties and behaviour problems.

Septicaemia can often lead to large areas of damage to the skin and the underlying tissues. This can cause scarring that may require skin grafting. In severe cases, amputation of fingers, toes or limbs is sometimes necessary. Septicaemia can also cause damage to major organs in the body such as the liver and kidneys.

Recovery and young children

These physical after-effects can also be accompanied by psychological and emotional problems. Emotional problems can present in many ways. It may be unclear as to whether they are the result of the illness itself, or as a result of the hospital stay. Behavioural problems can also occur: the child may revert to more babyish behaviour, which can include a deterioration in speech and in some instances bed-wetting. Temper tantrums and attention seeking behaviour may also be evident.

It can be a very challenging task caring for a child who has been seriously ill. Reintroducing the child into the early years setting may require a great deal of help and support. It can take patience and dedication to help the child settle back into an environment that feels safe and secure.

A full recovery may take weeks or sometimes months. During this time a child and its family will require a great deal of ongoing care and support. Whatever the after-effect, mild or severe, meningitis can change a child's life forever.

What can the Meningitis Trust do to help?

Our range of professional support services, developed over many years, helps people across the UK to rebuild their lives after meningitis.

This support is available for life, whenever it is needed, and includes the following:

24 hour nurse-led helpline

A freephone service, providing information and support seven days a week.

Professional counselling

Confidential counselling for people who have had meningitis and their families.

Financial support grants

We can provide grants to help fund specialist training, equipment, activities, respite care (to give carers a break from caring) and funeral costs.

Home visits

Trained staff offer information and support in people's homes.

One-to-one contacts

Putting people affected by meningitis in touch with volunteers who have also experienced the disease.

Where can I find further information?

The information contained in the websites and books listed below will provide you with information to further your knowledge and understanding of any of the topics contained in this guide.

Useful websites

Meningitis Trust www.meningitis-trust.org

Information about meningitis and the work of the Meningitis Trust

Meningitis Trust Learning Website www.meningitis-learning.org

A website for primary and secondary pupils, teachers and parents

Inmed Website www.inmedonline.com

Dedicated health professional education website on the subject of meningitis and septicaemia

Immunisation www.immunisation.nhs.uk

Information regarding vaccination, published by the Department of Health

Surgery Door www.surgerydoor.co.uk

A health website covering many health issues including meningitis

NHS Direct www.nhsdirect.nhs.uk

Information, frequently asked questions (FAQs), and useful links on health related topics including meningitis

NHS 24 www.nhs24.com

Confidential telephone health advice and information service for people in Scotland

Health Protection Agency www.hpa.org.uk

Statistics and information on infectious diseases (including meningitis) in England and Wales

Scottish Centre for Infection and Environmental Health www.hps.scot.nhs.uk

Statistics and information on infectious diseases (including meningitis) in Scotland

Communicable Disease Surveillance Centre for Northern Ireland www.cdscni.org.uk

Statistics and information on infectious diseases (including meningitis) in Northern Ireland

RAPPID www.rappid.org.uk

Information on pneumococcal disease (including meningitis) in children

Where can I find further information? (Cont.)

Books

Meningitis - a guide for families, 1997

J Simon Kroll, Andrew J Pollard, Parviz Habibi

Published by Publishing Solutions Ltd. (UK)

This book provides an excellent overview of meningitis and meningococcal disease through disease facts and case studies. It is a good book to recommend to all parents.

Need to Know Meningitis

Kristina Routh

Published by Heinemann Library, 2004.

This book provides essential information on all aspects of meningitis

Disclaimer:

Apart from its own websites, the Meningitis Trust is not responsible for the contents of the websites and books listed here.

About the Meningitis Trust

Meningitis is a devastating disease. It can strike at any time and its impact lasts a lifetime. Knowing about the disease saves lives, and the Meningitis Trust is committed to ensuring as many people as possible know about the disease and its signs and symptoms.

In spite of raising awareness over many years and recent medical advances, one in ten people who gets meningitis in the UK will die and many more will be left with serious disabilities.

And it's these people that the Meningitis Trust exists to help – giving them the real emotional, practical and financial support they need to help to rebuild their lives. In the case of bereavement, this will be about finding ways to move on. In the case of after-effects, to find ways to adapt to changing circumstances.

With thanks to Windmills Nursery in Stonehouse,
Gloucestershire for front cover photogragh.

The Meningitis Trust

Freephone **24 hour nurse-led helpline**
0800 028 18 28

The Meningitis Trust Head Office Fern House Bath Road Stroud Gloucestershire GL5 3TJ UK
tel: 01453 768000 **minicom:** 01453 768003 **fax:** 01453 768001 **e-mail:** info@meningitis-trust.org
24hr helpline UK: 0800 028 18 28 **international:** +44 870 124 7000 **web:** www.meningitis-trust.org
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