

► **Meningitis UK**

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Meningitis UK has a single focus – to find a vaccine to eradicate all forms of meningitis.

We rely entirely on charitable donations, so your support is crucial in enabling us to continue our vital work to eradicate these diseases and the subsequent devastation they cause.

Please Support Our

Search **4** a Vaccine Campaign

Phone **0117 373 73 73** or visit

www.Search4aVaccine.org

for fundraising ideas, donation options
and many other ways you can help.



Our vision is a vaccine to eradicate meningitis

Our mission is to find one

A contribution towards the cost of this leaflet has been provided by the Starfish Trust.

What you need to know about Meningitis



Meningitis can KILL in under **4 hours**

Meningitis - The Facts

Meningitis is a very frightening disease because it can strike so quickly, causing someone to become seriously ill within hours and if not treated successfully can cause death and serious disability.

Meningitis does not discriminate and can affect anyone of any age or ethnic origin.

It is a confusing disease to understand as there are several different types. Knowing the common symptoms is vital as prompt medical treatment can mean the difference between life and death.

▶ What is meningitis?

Meningitis is caused when the lining of the brain and spinal cord - the meninges - become inflamed, usually as a result of an infection. The inflammation usually spreads to the spinal fluid.

This infection can be caused by viruses or bacteria and may also develop following serious head injuries.

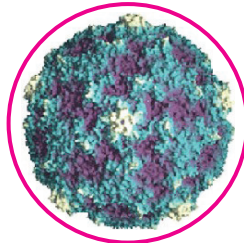
▶ Viral meningitis

Viral meningitis is more common than bacterial meningitis and much less dangerous.

Although viral meningitis can make you feel very unwell, treatment is usually rest and pain killers and most people make a full recovery without being admitted to hospital.

The symptoms for viral meningitis and bacterial meningitis are very similar, but are usually milder with viral meningitis. However, in the early stages of the illness it can be difficult to tell the difference between the two.

In a small number of cases, people who have suffered from viral meningitis may experience after-effects such as recurring headaches, exhaustion, deafness, tinnitus (ringing in the ears), memory loss, lack of co-ordination or confusion.



The coxsackievirus is just one of the viruses that can cause meningitis.

▶ Bacterial meningitis

Bacterial meningitis can be life threatening and requires URGENT medical treatment.

Someone suffering from bacterial meningitis needs to be treated with antibiotics immediately. The sooner effective treatment is given, the more likely a person is to make a full recovery.

Bacterial meningitis and septicaemia can be caused by different types of bacteria. The most common are meningococcal and pneumococcal.

Meningococcal

Meningococcal infection is caused by meningococcal bacteria (*Neisseria meningitidis*) which cause two distinct forms of disease - meningococcal meningitis and meningococcal septicaemia. They may occur separately or together. Of the two forms, meningococcal septicaemia is the most dangerous.

Meningococcal bacteria are the most common cause of bacterial meningitis in the UK. Approximately 5% of people who suffer from meningococcal meningitis will die.

Meningococcal septicaemia occurs when meningococcal bacteria enter the blood stream and multiply uncontrollably, poisoning the blood and completely overwhelming the immune system damaging the blood vessels, tissues and organs.

Approximately 20% of cases of meningococcal septicaemia will result in death, rising to over 50% if the patient develops septic shock prior to receiving medical care.

When meningococcal septicaemia strikes, causing the blood vessels to haemorrhage, the blood circulation does not reach the extremities of the body, i.e. hands and feet. In extreme cases, where there is irreversible damage, the only way to save lives is to amputate limbs.

The bacteria come in different forms called serogroups which are distinguished by the differences in the capsule coats surrounding them and cause different strains of the disease. There are more than 13 known serogroups of meningococcal bacteria. In the UK, the most common is group B, for which there is still no vaccine. The big challenge that scientists currently face is to find a successful vaccine to protect against all the serogroups.



Meningococcal bacteria grow in pairs called diplococci often surrounded by a capsule coat. Over a million of these would fit on the head of a pin.

Pneumococcal

Pneumococcal bacteria (*Streptococcus pneumoniae*) which cause ear infections and pneumonia can also cause pneumococcal meningitis, which is the second most common form of bacterial meningitis in the UK. Although pneumococcal meningitis is less common than meningococcal meningitis, it is a lot more life threatening. One in six children who contract pneumococcal meningitis will die and half of those who survive will be left with severe disabilities such as deafness, brain damage and seizures. Pneumococcal meningitis can also be accompanied by septicaemia, the blood-poisoning form of the disease.

Young children, the elderly and people with weakened immune systems are at higher risk of contracting pneumococcal disease.

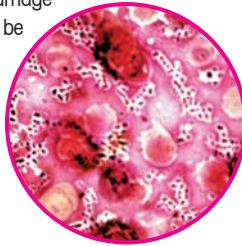
The good news is a vaccine to protect against pneumococcal infection has recently been introduced into the Childhood Immunisation Programme across the UK.

Other bacteria

Other bacteria which can cause meningitis include Group B Streptococcus (GBS) and E.coli, which account for most cases of meningitis in newborn babies in the UK. Listeria, staphylococcal infections and tuberculosis can also cause meningitis.

► Symptoms

Some of the symptoms for meningitis and meningococcal septicaemia are the same, while others differ. Not everyone gets all of the symptoms and they can appear in any order. In the early stages of both diseases, symptoms can also often appear flu-like.



The pneumococcal bacterium

RECOGNISING THE SYMPTOMS COULD MEAN THE DIFFERENCE BETWEEN LIFE OR DEATH

MENINGITIS?

CHECK THE SYMPTOMS



Do the Tumbler Test

Most people with meningococcal septicaemia develop a rash of tiny red 'pin prick' spots, which can rapidly develop into purple bruising. If the rash does not fade when a glass is pressed against it, it could be meningococcal septicaemia. On dark skin, check for the rash on lighter parts of the body, eg. inner eyelids or finger tips.



Rash on dark skin

ACT QUICKLY!

NOT EVERYONE GETS ALL OF THESE SYMPTOMS AND THEY CAN APPEAR IN ANY ORDER

Meningococcal Septicaemia		Meningitis
Rash	<input type="radio"/>	<input type="radio"/>
Leg pain	<input type="radio"/>	<input type="radio"/>
Cold hands & feet	<input type="radio"/>	<input type="radio"/>
Floppy child/ difficulty supporting own weight	<input type="radio"/>	<input type="radio"/>
Fever, vomiting or diarrhoea	<input type="radio"/>	<input type="radio"/>
Confusion & drowsiness	<input type="radio"/>	<input type="radio"/>
Difficulty breathing	<input type="radio"/>	<input type="radio"/>
Abdominal/joint/ muscle pain	<input type="radio"/>	<input type="radio"/>
Abnormal skin colour	<input type="radio"/>	<input type="radio"/>
Severe headache	<input type="radio"/>	<input type="radio"/>
Stiff neck	<input type="radio"/>	<input type="radio"/>
Dislike of bright light	<input type="radio"/>	<input type="radio"/>
Body stiffens/jerky movements	<input type="radio"/>	<input type="radio"/>

Important

Someone who becomes unwell rapidly should be examined particularly carefully for the meningococcal septicaemia rash.

Other symptoms in babies may include:

- Blotchy skin, quite pale or turning blue
- Tense or bulging soft spot (fontanelle) on the baby's head
- Poor feeding
- High pitched cry/irritable (especially when being held)

IF YOU SUSPECT EITHER DISEASE GO IMMEDIATELY TO YOUR NEAREST GP OR CASUALTY UNIT



Questions and Answers

Q Can anyone suffer from meningitis and septicaemia?

Yes. These diseases can affect anyone of any age. However babies and children under the age of five, followed by young people aged between 14 and 24 years are the most at risk.

Around 2,400 people are affected by all types of meningitis in the UK each year. One in ten victims will die, and one in seven of those who survive will be left with permanent disability such as loss of limbs, blindness, deafness or brain damage.

Q How do people catch bacterial meningitis?

While bacterial meningitis and septicaemia are rare, the bacteria which actually cause the diseases are quite common, with 10 percent of people carrying the meningococcal bacteria and up to 60 percent of people carrying the pneumococcal bacteria at any time.

These bacteria normally live harmlessly at the back of the nose and throat and can only be passed from person to person in nasal or oral droplets, for example by kissing or sneezing. Even when passed on they are unlikely to cause any problems, as most people have a natural resistance to the bacteria. These bacteria can only survive outside the body for a short period of time and cannot live long in the air or on household objects such as clothes or furniture.

Scientists do not yet fully understand why bacteria which are harmless to most of us, turn into deadly killers.

Q Why are babies and students more at risk?

Babies do not replace the temporary natural immunity they get from their mothers until school age and so are at greater risk. Students are thought to be more at risk because the carriage rates tend to be higher due to the close proximity in which they live on University campuses.

Q Someone I know is currently in hospital with bacterial meningitis. Am I at risk?

There is no need to avoid people who have been in contact with meningitis. As one in ten people carry the meningococcal bacteria, most of us come into contact with them every day.

Usually, you have to be in prolonged close contact with someone for the bacteria to be passed on and even when this happens, most of us will not become ill because we have a natural resistance to it.

Detailed carriage studies suggest that most cases occur within 2-7 days of contact with the carrier. The likelihood of someone becoming ill after this time is estimated to be less than 1 in 10,000.

As always, you should nevertheless remain vigilant and seek urgent medical treatment if you suspect something is wrong.

The treatment people receive in hospital destroys the bacterium that causes meningitis and septicaemia, so once the person has returned home, there will be no risk to others.

Q Will I need antibiotics if someone I know is diagnosed with bacterial meningitis?

If someone has suffered from meningitis then those who are seen to be at risk will be contacted by the Health Protection Agency (HPA) and given a course of antibiotics. If you are not contacted by the HPA then you are not seen to be at risk, however, if you are still concerned, contact your GP and always be vigilant for the symptoms.

Q If someone has suffered from the disease, can they catch it again?

Yes. Meningitis and septicaemia are rare, but if you have suffered from the disease once, it does not stop you from suffering from it again.

Q What do I do if I think my child is showing the symptoms of meningitis or septicaemia, but my GP tells me otherwise?

Trust your instincts and be persistent - you know your child. If you have any doubt at all, go directly to your nearest Casualty Unit.

Q What causes the meningococcal septicaemia rash?

A rash of tiny red 'pin prick' spots is caused by blood vessels leaking and little blood blisters appearing under the skin. As the illness progresses and more damage is caused to the blood vessels, the spots can develop rapidly into purple bruising.

Q If the rash does fade when carrying out the tumbler test, what should I do?

It is essential that you remain vigilant and follow your instincts. In the majority of cases, with babies and young children in particular, you will notice a rapid deterioration in their condition. If you are at all concerned, seek medical advice urgently.

Q What can I do to protect myself and my family?

Vaccines are available to protect those at risk against certain types of bacterial meningitis. Hib, Meningitis C and Pneumococcal vaccinations are offered as part of the Childhood Immunisation Programme in the UK. However, there is still no vaccine to protect against all strains of the disease, including the most common - Meningitis B, so it is vital to stay vigilant and be aware of the symptoms.

