

Meningitis vaccines, the facts

Meningitis
now

This fact sheet provides information about the vaccines that protect against different types of meningitis. Further meningitis information can be found at www.MeningitisNow.org. You can also request any of our information materials by contacting our Meningitis Helpline on **0808 80 10 388**.

Words highlighted in **blue** are explained in a glossary on the back page.

Vaccines are the only way to prevent serious and life-threatening infectious diseases. Meningitis can strike quickly and kill within hours – survivors can be left with life-long disabilities including deafness and brain injury.

What are vaccines and how do they work?

Vaccines are given to help the body's immune system fight infection. They contain **antigens** which may be purified, harmless components of the germ (**bacteria** or **virus**) that can cause disease. In the case of some virus vaccines, the antigen can be a weakened (attenuated) version of the virus that is not capable of causing serious infection, but can stimulate an **immune response**. When a vaccine is injected into the body, the immune system is stimulated to produce **antibodies** in response to these antigens. After vaccination, if someone comes into contact with the germ itself, the body will recognise it and have the ability to fight it.

A different vaccine needs to be given to protect against each infection, and some vaccines need to be given more than once to build up enough protection.

Until there are vaccines to prevent all types of meningitis* and septicaemia** it is vital to know the signs and symptoms.

meningitis* refers to meningitis and meningococcal septicaemia.

septicaemia** many medical experts now use the term **sepsis** instead of septicaemia.

Key points

- Vaccines are the only way to prevent meningitis
- The **routine immunisation schedule** offers vaccines to protect against some of the most common causes of meningitis and septicaemia
- There is no vaccine to protect against all causes

Which vaccines are available to protect against meningitis?

Effective vaccines are available to prevent some types of meningitis. The following vaccines, except BCG, are offered routinely in the UK. The BCG vaccine is offered to babies, children and young people who are most at risk.

Meningococcal

Meningococcal bacteria can cause meningitis and septicaemia. There are five groups; MenA, MenB, MenC, MenW and MenY which commonly cause disease. While meningococcal disease affects all age groups, babies, young children, teenagers and young adults are at a higher risk.

MenC vaccine is offered to babies at 12-13 months of age as part of the **routine immunisation schedule**. Since the introduction of the MenC vaccine in 1999, cases of MenC disease have fallen by over 90% in all age groups.

MenB is the most common cause of meningococcal disease in the UK; babies under one year are most at risk.



A **MenB** vaccine was introduced into the routine immunisation schedule in September 2015. A total of three doses are given at 2, 4 and 12 months of age. The vaccine is also available on the NHS for a small number of children and adults who are at increased risk of meningococcal infection, including those with no spleen or those who have a disorder of the immune system called complement deficiency.

A **MenACWY** vaccine, offered at around 14 years of age, is now part of the **routine immunisation schedule**. There has also been a catch up programme to ensure that all 15 – 18 year olds receive this vaccine and these young people will remain eligible for the vaccine until they are 25 years old. In addition to this, all those starting university for the first time and under 25 years of age, are also eligible. This vaccine protects against meningococcal groups A, C, W and Y, but not group B.

Teenagers and young people are at increased risk of getting meningitis and meningococcal septicaemia, and are also more likely to carry meningitis-causing bacteria in the back of their throats. The introduction of the MenACWY vaccine for 14 – 18 year olds will improve protection for this high risk group and also help stop the bacteria spreading to the wider population.

Pneumococcal

Pneumococcal bacteria can cause meningitis, and less commonly septicaemia. There are over 95 different strains of pneumococcal bacteria. The risk of pneumococcal meningitis is highest in children under 18 months of age. Two vaccines are currently available to prevent pneumococcal disease.

A Pneumococcal **Conjugate Vaccine** (PCV) is available as part of the **routine immunisation schedule**. Babies born on or after 1st January 2020 are offered the vaccine at 12 weeks and 12-13 months. PCV protects against 13 different strains of pneumococcal bacteria which cause invasive disease (including meningitis) in the UK under 5s.

A Pneumococcal **Polysaccharide Vaccine** (PPV) is also available. This protects against 23 strains of pneumococcal bacteria, but only has a limited period of protection, and is not effective in the under 2s. This vaccine is routinely offered to people aged 65 years and over.

Pneumococcal vaccinations are also recommended for adults and children who are at increased risk of pneumococcal disease, for example, those with chronic respiratory disease, chronic heart disease, diabetes mellitus and those with cochlear implants. Anyone who has had pneumococcal disease, including meningitis, should actively seek vaccination.

Hib - *Haemophilus influenzae type b* (Hib) bacteria can cause meningitis and septicaemia (blood poisoning). Before the vaccine was introduced in 1992, Hib was the leading cause of bacterial meningitis in children under 5 years of age, with around 800 cases and 25 deaths reported each year.

Cases of Hib meningitis are now rare, with around 30 – 40 cases reported annually in the UK. Hib is part of the combined vaccine that protects against diphtheria, tetanus, pertussis (whooping cough), polio, hepatitis B and Hib. This combined vaccine is offered to babies at 2, 3 and 4 months of age, with a booster dose given at 12-13 months of age. The booster vaccine is a combined vaccine for Hib and Men C.

TB

TB meningitis is caused by the bacterium *Mycobacterium tuberculosis*. The BCG vaccine gives good protection against TB meningitis and is effective in babies and young children. The current programme of vaccination in the UK targets babies, children and young people who are most likely to catch the disease.

BCG vaccinations may also be recommended for people who have an increased risk of developing TB, such as:

- healthcare, laboratory and prison workers
- people who have recently arrived from countries with high levels of TB
- people who have come into close contact with somebody infected with respiratory TB.

Mumps

The virus that causes mumps is a common cause of meningitis and, in an unvaccinated population, mumps is a major cause of acquired deafness. The routine MMR vaccine protects against mumps as well as measles and rubella (German Measles). MMR vaccine is given at 12-13 months of age with a booster dose before the age of five.

For more information about any of these vaccines, and NHS immunisation programmes see - www.nhs.uk/conditions/vaccinations/

Are vaccines safe?

Yes. Before a vaccine can be licensed for use in the UK, it is thoroughly tested for its safety and effectiveness. Vaccines are constantly monitored to ensure that any adverse reactions and rare side effects are recorded for further investigation.

How effective are the vaccines?

Vaccines have been very successful in reducing 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 our high immunisation rates.

Vaccines do not just offer protection to the person receiving them, but also help protect others in the community, particularly children, who for medical reasons cannot be immunised.

Common symptoms that can occur following vaccination are redness and swelling around the injection site and **fever** – 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.

Meningitis and travel

MenA causes epidemics in Sub-Saharan Africa and has resulted in thousands of deaths each year.

In recent years, MenW has caused outbreaks in pilgrims travelling to the Hajj in Saudi Arabia, and it is now a legal requirement that these visitors are vaccinated against MenW.

MenACWY vaccine is available for travellers to 'at risk' areas of the world.

BCG vaccine is also offered to people travelling to parts of the world where the incidence of TB is high.

Private vaccines

The NHS offers a comprehensive immunisation schedule to help protect those most at risk. Some people, who are not currently eligible through the NHS, may choose to seek vaccines privately for themselves or their family.

Private vaccines are available from travel clinics, private GP practices and some pharmacies. Most GP's cannot offer a private vaccine service to their own NHS patients. Advice about the risks and benefits of vaccines can be obtained from your GP, practice nurse or Health Visitor. Our helpline can offer general information about the meningitis vaccines currently available.

Future vaccines

There are still types of meningitis that can't be prevented by current vaccines. It is vital that research continues, to both develop new vaccines, and improve existing ones.

Find out more

- **Meningitis Now**
www.MeningitisNow.org
Information about meningitis and the work of Meningitis Now.
- **NHS immunisation information**
www.nhs.uk/conditions/vaccinations/
Information about vaccines and NHS immunisation programmes.

Glossary

Antigen

A substance, usually a protein, that stimulates the production of antibodies.

Antibody

A protein produced by the body as part of the immune response. These proteins help the body to fight infection.

Bacteria

Single-celled micro-organisms, of which there are many types. Some types can cause disease in humans.

Conjugate vaccine

A vaccine made by attaching the purified outer coating of the disease-causing organism to a carrier protein. These vaccines give long-term protection and are effective in all age groups.

Fever

An abnormal rise in body temperature over 37.5°C.

Immunity / immune response

The body's ability to recognise and resist specific infectious diseases. The immune system responds to infection by producing antibodies.

Polysaccharide vaccine

A vaccine made from the purified outer coating of the disease-causing organism. These vaccines give short-term protection and are not effective in children under 18 months of age.

Routine immunisation schedule

A planned programme of vaccines which provides protection against a range of infectious diseases.

For more information, visit www.nhs.uk.

Sepsis

A life-threatening condition that arises when the body's response to infection injures its own tissues and organs.

Viruses

Microbes that are smaller than bacteria. There are many types, some of which can cause disease in humans, e.g. enteroviruses.

Meningitis Now is here to help you. We are saving lives and rebuilding futures through awareness, research and support.

We offer ongoing support for all those living with the impact of the disease. We support individuals, and their families, including those who have been bereaved, helping to rebuild lives after meningitis and meningococcal septicaemia.

We can:

- Listen; and answer your questions about meningitis and meningococcal septicaemia
- Talk to you about your individual experience and how we can tailor our help to you
- Provide support locally to you
- Put you in touch with others who have been through it too
- Support you and those closest to you; children, teenagers and adults
- Provide financial contributions towards unexpected costs following meningitis through our Rebuilding Futures Fund

If you have any questions, or are interested in finding out how we can help, please get in touch.

Meningitis Helpline: 0808 80 10 388 (UK)

Email: helpline@meningitisnow.org

We are proud of the work we do, but we can't do it alone. We rely on voluntary donations and need help from people like you. Every penny, pound, hour and day given makes a big difference. Find out how you can help www.MeningitisNow.org

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References for the content of this fact sheet are available on our website.



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