

**INCLUDES SCHEDULE FROM JULY 2025**

A guide to immunisation up to  
**13 months of age**

For babies born on or after  
the 1 July 2024



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Keeping up to date with  
**vaccinations helps**  
**to protect your baby**  
when they need it most.

Keep this leaflet in a handy place for  
your baby's first year of life.

Copies of these booklets are available  
from your clinic or doctor's surgery.



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# Summary of vaccinations up to one year of age

## Which vaccinations will my baby have at 8, 12 and 16 weeks?

At 8 weeks, your baby will have vaccinations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B as a single injection
- meningococcal group B disease (MenB) as an injection
- rotavirus gastroenteritis will be given as drops into the mouth

At 12 weeks, your baby will have vaccinations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B as a single injection
- a second dose of Meningococcal group B disease (MenB) as an injection
- rotavirus will be given as drops into the mouth

At 16 weeks, your baby will have vaccinations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B as a single injection
- a first dose of pneumococcal vaccination (PCV13) as an injection

## Which vaccinations will my baby have at one year of age?

Your baby will have vaccinations against:

- pneumococcal disease (their booster dose)
- measles, mumps and rubella (their first dose)
- meningococcal group B (Men B) (their booster dose)



The 2 public health interventions that have had the greatest impact on the world's health are **clean water and vaccines.**"

**World Health Organization**



# Common questions about immunisation



## **What is immunisation?**

Immunisation is a way of protecting against infectious diseases. Once we have been vaccinated, our bodies are better able to fight those infections if we come into contact with them. Vaccination is a safe way to help to prevent the serious impact of these diseases in the community.

## **How do vaccines work?**

There are some infectious diseases that regularly cause children to suffer, and may also kill or cause long term damage to their health. Vaccines are given to prepare your child's immune system to fight off those diseases if they come into contact with them. Vaccines contain a small amount of either a weakened form or a carefully chosen part of the germ (the virus or bacterium) that causes a disease. Vaccines work by causing the body's immune system to develop cells that are programmed to remember the targeted infection. If your child later comes into contact with the infection, these cells will recognise it and rapidly produce antibodies and other substances that fight off infection and help to protect him or her. Because vaccines have been used so successfully in the UK, diseases such as diphtheria have almost disappeared from this country.

## **When should my baby be vaccinated?**

It is important that your baby has their vaccines at the right age – the first doses are given at 8 weeks old. They will be given further doses when they are 12 weeks old and 16 weeks old. Other vaccines are given at one year of age with more at 18 months and then at 3 years and 4 months of age, just before they start school (see the back page of this leaflet).

## **Why are babies vaccinated so early?**

Many of these diseases can be particularly serious in young babies. It is important to make sure babies are protected as early as possible to prevent them catching these infections.

## **Why does my baby need more than one dose of vaccine?**

Most vaccines need to be given more than once to give your child's immune system the best support and protect them from disease. For example, 4 doses of DTaP/IPV/Hib/HepB vaccine are needed to provide protection in babies and young children.

Booster doses are then given later to provide longer-term protection over the school years and into adulthood.

## **How will I know when my baby's vaccinations are due?**

You will receive a letter or text message telling you what to do when your baby is due their vaccines. Most surgeries and health centres run special immunisation or baby clinics.

If you can't get to the clinic, contact the surgery to make another appointment. All childhood vaccinations are free. You can also find details in your child's Red Book.

## **What happens at the appointment?**

The doctor or nurse will explain the immunisation process to you, and answer any questions you have. Most vaccines are injected into the muscle of the child's thigh or the upper arm. Rotavirus vaccine is given as drops by mouth.

## **What if I miss the appointment?**

It is really important that your baby has their vaccinations when they are due. If you do need to delay you can pick up the immunisation schedule where it stopped without having to start again.

The course of rotavirus vaccine can only be started in babies up to 15 weeks of age and no dose of the vaccine is given over 24 weeks of age.



### **Remember**

**It's never too late to have your child vaccinated. Even if your child has missed a vaccination and is older than the recommended ages, talk to your doctor, practice nurse or health visitor to arrange for your child to be vaccinated.**

### **If some diseases have disappeared from this country, why do we need to immunise against them?**

In the UK, many diseases are kept at bay by high immunisation rates. Around the world, millions of people a year die from infectious diseases with more than 5 million of these being children under the age of 5. Many of these deaths could be prevented by vaccination. As more people travel abroad and more people come to visit this country, there is a risk that they will bring these infections into the UK. The infections may spread to people who are not protected so your baby is at greater risk if he or she has not been vaccinated. Vaccination doesn't just protect your child; it also helps to protect your family and the whole community, especially those children who, for medical reasons, can't be vaccinated. (See page 13 for details).

### **How do we know that vaccines are safe?**

Before they are allowed to be used, all medicines (including vaccines) are thoroughly tested to assess how safe and effective they are. After they have been licensed, the safety of vaccines continues to be monitored. Any rare side effects that are discovered can then be assessed further. All medicines can cause side effects, but vaccines are among the very safest. Research from around the world shows that vaccination is the safest way to protect your child's health.

## **I am worried that my baby will be upset by having an injection**

Your baby may cry and be upset for a few minutes, but they will usually settle down after a cuddle.

## **Will my baby have any side effects from the vaccine?**

Some babies will have side effects. They may:

- have redness, swelling or tenderness where they had the injection (this will slowly disappear on its own)
- be a bit irritable and feel unwell
- have a temperature (fever)
- babies having the rotavirus vaccine may get mild diarrhoea

## **What is fever?**

A fever is a temperature over 37.5°C. Fevers are quite common in young children, but are usually mild. If your child's face feels hot to the touch and they look red or flushed, he or she may have a fever.

You should check their temperature with a thermometer.



## How to treat and prevent fever

Keep your child cool by:

- making sure they don't have too many layers of clothes or blankets on, and
- giving them plenty of cool drinks

A dose of infant liquid paracetamol may help reduce your child's temperature. Read and follow the instructions on the bottle very carefully. You may need to give another dose 4 to 6 hours later.

Fever is more common when babies have the MenB vaccine alongside their other vaccines. Because of this we advise that paracetamol is given to all babies when they get their first and second set of vaccines (at 8 and 12 weeks) (see page 24).

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### Remember

**Never give medicines that contain aspirin to children under 16.**

If you are worried about your child, trust your instincts.

Speak to your doctor or call the free NHS helpline 111.

Call the doctor **immediately** if, at any time, your child:

- has a temperature of 39°C or above
- or has a fit

If the surgery is closed or if you can't contact your doctor, trust your instincts and go to the emergency department of your nearest hospital.

## **I'm worried that my baby may have allergies. Can they still have vaccines?**

Yes. Asthma, eczema, hay fever, food intolerances and allergies do not prevent your child having any vaccine in the childhood immunisation programme. If you have any questions, or if your child has had an anaphylactic reaction, speak to your doctor, practice nurse or health visitor.

## **Are some babies allergic to vaccines?**

Very rarely, children can have an allergic reaction soon after immunisation. This reaction may be a rash or itching affecting part or all of the body. The doctor or nurse giving the vaccine will know how to treat this. It does not mean that your child should stop having vaccinations.

Even more rarely, children can have a severe reaction, usually within a few minutes of the immunisation, which causes breathing difficulties and can cause the child to collapse. This is called an anaphylactic reaction. A recent study has shown that there is less than one anaphylactic reaction for every million vaccinations given.

The people who give vaccinations are trained to deal with anaphylactic reactions and children recover completely with treatment.

**An anaphylactic reaction is a severe and immediate allergic reaction that needs urgent medical attention.**



## Are there any reasons why my baby should not be vaccinated?

There are very few reasons why babies cannot be vaccinated. Vaccines should not be given to babies who have had:

- a confirmed anaphylactic reaction to a previous dose of the vaccine
- a confirmed anaphylactic reaction to a known ingredient of the vaccine

In general, children who are ‘immunosuppressed’ (have a weakened immune system) should not receive live vaccines (those that contain weakened but living forms of the germ) – see below. Children who are immunosuppressed include those:

- whose immune system does not work properly because they are undergoing treatment for a serious condition such as a transplant or cancer
- who have any condition which affects the immune system, such as severe primary immunodeficiency. Primary immunodeficiencies are very rare diseases that mean they are more likely to catch infections. They are usually caused by a faulty gene and are diagnosed soon after birth

If you think this applies to your child, you must tell your doctor, practice nurse or health visitor before the vaccination. Your child’s healthcare professional may need to get specialist advice on using live vaccines such as MMR, rotavirus vaccine and BCG.

There are no other reasons why vaccines should definitely not be given.



## **What if my baby is ill on the day of the appointment?**

If your baby has a minor illness without a fever, such as a cold, they should have their vaccinations as normal. If your baby is ill with a fever, it is better to put off the vaccinations until they have recovered. This is to avoid the fever being associated with the vaccine, or the vaccine increasing the fever your child already has.

## **What else should I think about before my baby is vaccinated?**

If your baby:

- has a bleeding disorder (for example haemophilia, in which the blood does not clot properly)
- has previously had a fit not associated with fever

Speak to your doctor, practice nurse or health visitor before your child has any immunisation. The healthcare professional may then advise specific care during or after the vaccination.

## **What are fits?**

Fits are also called seizures or convulsions. Some are associated with fever and some are not. Seizures associated with fever (which may be called a febrile seizure or febrile convulsion) are rare in the first 6 months of life and are most common in 1 and 2 year olds.

After this age, they become less frequent and are rare after the age of 5 years. Most children who have febrile seizures recover fully. When a child has a seizure within a short time after immunisation, it might have been triggered by a fever due to the vaccine or it may be due to an underlying medical condition.

If your baby has a fit after vaccination, you should seek urgent medical advice. If your surgery is closed or if you can't contact your doctor, go straight to the emergency department of your nearest hospital. They may refer your baby to a specialist for advice about further investigations and future vaccinations.

## **My baby was born early. When should premature babies have their first vaccination?**

Premature babies may be at greater risk of infection. They should be vaccinated in line with the recommended schedule from 8 weeks after birth, no matter how early they were born.

## **Does my baby have to be vaccinated?**

In the UK, parents can decide whether or not to have their children vaccinated. Vaccination is recommended because it gives your baby protection against serious diseases, most of which can kill.

Around the world, many children are now routinely protected with vaccines. Because of this, some of the world's most serious diseases may soon disappear.

## **How long do I have to wait before I can take my baby swimming?**

You can take your baby swimming at any time before and after their vaccinations.

## **Is it safe to have several vaccinations in one go?**

Yes; from birth, babies' immune systems protect them from the germs that surround them. Without this protection, babies would not be able to cope with the tens of thousands of bacteria and viruses that cover their skin, nose, throat and intestines. This protection carries on throughout life.

Studies have shown that it is safe to have several vaccinations at the same time and your baby will be protected from some very serious diseases.

## **Are there other ways to immunise my baby?**

There is no other proven safe and effective alternative to vaccinations to protect your baby from these diseases.

## **Why is the immunisation programme changed from time to time?**

Immunisation programmes are regularly reviewed to make sure that all children are offered the best protection against preventable diseases. As new vaccines become available, or research shows that giving existing vaccines at different times improves protection, the programme will be changed.

Recent changes to the UK programme have been:

- giving MenB vaccine to babies at 8 weeks, 12 weeks and one year of age
- adding a dose of 6 in 1 vaccine at 18 months of age
- giving HPV vaccine to boys as well as girls from September 2019
- changing the age of the first dose of pneumococcal vaccine to 16 weeks of age

# The childhood immunisation programme

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**Remember**

**Bring your Red book with you to each appointment.**



## The childhood immunisation programme

Vaccines are given to babies at 8, 12, 16 weeks and one year of age with further immunisations given at the age of 18 months.

When	Diseases protected against	Vaccine given
8 weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB
	Meningococcal group B (MenB)	MenB
	Rotavirus gastroenteritis	Rotavirus
12 weeks old	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB
	Meningococcal group B (MenB)	MenB
	Rotavirus	Rotavirus
16 weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB
	Pneumococcal (13 serotypes)	PCV

# Vaccines at 8, 12 and 16 weeks of age

You will be offered DTaP/IPV/Hib/HepB, MenB, PCV and rotavirus for your baby during the first 4 months of their life. The vaccines are described below, together with the diseases they protect against.

## **DTaP/IPV/Hib/HepB vaccine (6 in 1 vaccine)**

**Your baby should be vaccinated with DTaP/IPV/Hib/HepB vaccine when they are 8, 12, 16 weeks and 18 months old.**

The DTaP/IPV/Hib/HepB vaccine protects against 6 different diseases – diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B.

### **How effective is the DTaP/IPV/Hib/HepB vaccine?**

Studies have shown that DTaP/IPV/Hib/HepB vaccine is very effective in protecting your baby against these 6 serious diseases. Further doses are needed to extend this protection as your child grows up.

There are two 6 in 1 vaccines your baby might be offered, you can read the patient information leaflets from the manufacturers here:

- Vaxelis: [medicines.org.uk/emc/product/12264/pil](https://www.medicines.org.uk/emc/product/12264/pil)
- Infanrix: [medicines.org.uk/emc/product/2586/pil](https://www.medicines.org.uk/emc/product/2586/pil)

## **What is diphtheria?**

Diphtheria is a serious disease that usually begins with a sore throat and can quickly cause breathing problems. It can damage the heart and nervous system and, in severe cases, it can kill. Before the diphtheria vaccine was introduced in the UK, there were up to 70,000 cases of diphtheria a year, causing up to 5,000 deaths.

## **What is tetanus?**

Tetanus is a disease affecting the nervous system which can lead to muscle spasms, cause breathing problems and can kill. It is caused when germs that are found in soil and manure get into the body through open cuts or burns. Tetanus cannot be passed from person to person.

## **What is pertussis (whooping cough)?**

Whooping cough is a disease that can cause long bouts of coughing and choking, making it hard to breathe. Whooping cough can last for several weeks or months. Babies under one year of age are most at risk from whooping cough. For these babies, the disease is very serious and it can kill. It is not usually as serious in older children and adults. Before the pertussis vaccine was introduced, the average number of cases of whooping cough reported each year in the UK was 120,000. In the year before the programme started 92 children died from pertussis. Because babies under one year of age are at particular risk of severe complications, vaccination of pregnant women was introduced in 2012. This vaccine boosts the antibodies made by the woman's body and these are then passed onto the baby. These antibodies help to protect them during the first few months of life until they are old enough to have a vaccine themselves. Because the protection generated by the maternal vaccination doesn't last very long in the baby, it is still very important that babies are vaccinated at the right age.

## What is polio?

Polio is a virus that attacks the nervous system and can cause permanent paralysis of muscles. If it affects the chest muscles or the brain, polio can affect the breathing and kill. Before the polio vaccine was introduced, there were as many as 8,000 cases of polio in the UK in epidemic years. Because of the continued success of the polio vaccination, there have been no cases of natural polio infection in the UK for over 30 years (the last case was in 1984).

## What is Hib?

Hib is an infection caused by *Haemophilus influenzae* type b bacteria. It can lead to a number of major illnesses such as blood poisoning (septicaemia), pneumonia and meningitis (infection of the lining of the brain). The Hib vaccine only protects your baby against the type of meningitis caused by the *Haemophilus influenzae* type b bacteria – it does not protect against any other causes of meningitis.

**The illnesses caused by Hib can kill if treatment is not started quickly.** Before the Hib vaccine was introduced, there were about 800 cases of Hib in young children every year. Since its introduction, the number of children under 5 years of age with Hib has fallen by 99%.

## What is hepatitis B?

Hepatitis B is an infection of the liver caused by the hepatitis B virus. In children, the infection can persist for many years and can sometimes lead to complications such as scarring of the liver (cirrhosis), which prevents it from working properly, or liver cancer.

Although the number of children infected with the hepatitis B virus is low in the UK, hepatitis B immunisation has been provided to infants at higher risk since the 1980s. In 2017 hepatitis B vaccine was added to the routine immunisation programme so that all children can benefit from protection against this virus.

3 or more doses of the vaccine provides long lasting protection against infection with hepatitis B, but not to other forms of hepatitis.

### **After immunisation with DTaP/IPV/Hib/HepB**

Your baby might get some side effects, which are usually mild, including:

- redness, swelling or tenderness where they had the injection
- being miserable for up to 48 hours after having the injection
- developing a mild fever (see page 11)
- a small lump where your baby had the injection. This may last for a few weeks but will slowly disappear

If you think your baby has had any other reaction to the DTaP/IPV/Hib/HepB vaccine and you are concerned about it, talk to your doctor, practice nurse or health visitor.



## MenB vaccine

**Your baby should be vaccinated with MenB vaccine when they are 8 weeks, 12 weeks and 12 months old.**

This vaccine protects against meningitis and septicaemia (blood poisoning) caused by 'meningococcal group B' bacteria. The MenB vaccine does not protect against meningitis and septicaemia caused by other bacteria or by viruses (see page 40).

### **What are meningococcal B bacteria?**

There are several types of meningococcal bacteria (A, B, C, W, Y and Z) and most cases of meningitis and septicaemia in the UK are caused by the B strains, especially in young children. A vaccine that helps to protect against MenB disease was introduced into the UK programme in September 2015.

### **How common is MenB disease?**

In England and Wales, in 2013, there were over 500 confirmed MenB cases, with more than half of the cases in children under 5 years of age. Without vaccination, around 1 in 3,500 infants under one year and 1 in 8,000 toddlers aged 1 to 4 years will develop meningococcal disease every year.

### **After immunisation with MenB vaccine**

Some babies may:

- have redness, swelling or tenderness where they had the injection (this will slowly disappear on its own within a few days)
- be a bit irritable and feed poorly
- have a temperature (fever)

## **Why do I need to give my baby paracetamol following the MenB vaccinations?**

Fever can be expected after any vaccination, but is very common when the MenB vaccine is given with the other routine vaccines at 8 and 12 weeks. The fever shows the baby's body is responding to the vaccine, although the level of fever depends on the individual child and does not indicate how well the vaccine has worked. Giving infant paracetamol will reduce the risk of fever, irritability and general discomfort (including pain at the site of the injection) after vaccination.

## **How much infant paracetamol should I give my baby and when?**

You will need to give your baby a total of 3 doses of paracetamol (2.5ml of infant paracetamol 120mg/5ml suspension) to prevent and treat any potential fever after both the 8 and 12 week vaccination visits.

You should give the first dose of paracetamol as soon as possible after your baby is given the first set of vaccines. You should then give the second dose 4 to 6 hours later and the third dose 4 to 6 hours after that.

You will need to follow the same steps after their 12 week vaccinations. No paracetamol is required at the 12 month dose (see page 29). If you do not have any infant liquid paracetamol at home you should get some in time for your first vaccination visit. It is widely available from pharmacies and supermarkets.

The Meningitis B vaccine is called Bexsero. To read the patient information leaflet, visit [www.medicines.org.uk/emc/product/5168/pil](http://www.medicines.org.uk/emc/product/5168/pil)

## **Pneumococcal conjugate vaccine (PCV)**

**Your baby should be vaccinated against PCV when they are 16 weeks and 12 months old.**

PCV provides some protection against one of the most common causes of meningitis, and also against other conditions.

This vaccine only protects against 13 types of pneumococcal bacteria and does not protect against meningitis caused by other bacteria or viruses (see the meningitis and septicaemia section on page 40).

### **What are pneumococcal bacteria?**

There are more than 90 different pneumococcal types (serotypes) that can cause disease in humans, but the 13 types in the vaccine were the most common.

The infection causes serious (invasive) disease such as meningitis and septicaemia (blood poisoning) and less serious infections such as ear infections (otitis media), sinusitis, pneumonia and bronchitis.

### **How common is invasive pneumococcal infection?**

More than 5,000 cases are diagnosed each year in England. The number of cases peaks in December and January.

It particularly affects:

- the very young
- the elderly
- people with certain medical conditions

Invasive infections due to the strains covered by the vaccine have declined dramatically since the vaccine was introduced.

### **After vaccination against PCV**

Some babies may get swelling, redness or tenderness at the injection site or a mild fever (see also pages 10 and 11). The pneumococcal vaccine for infants is called Prevenar 13. To read the patient information leaflet, visit [www.medicines.org.uk/emc/product/453/pil](http://www.medicines.org.uk/emc/product/453/pil)

## **Rotavirus vaccine**

### **The vaccine will be given with your baby's other routine vaccinations at 8 and 12 weeks of age.**

Rotavirus is an infection that causes vomiting and diarrhoea. In England, before the vaccine was introduced, almost all babies got rotavirus at sometime in their first 5 years of life and about 1 in every 5 required medical attention. About 1 in 10 of these (roughly 13,000) were admitted to hospital because of rotavirus.

### **How is rotavirus spread?**

This virus can be spread through hand to mouth contact and be picked up from surfaces such as toys, hands or dirty nappies. It can also be spread through the air by sneezing and coughing.

### **When will my baby have the vaccination?**

The vaccine will be given with the other routine vaccinations at 8 and 12 weeks of age. Your baby should have 2 rotavirus vaccinations at least 4 weeks apart to get the best protection.

If your baby doesn't have their vaccination on time, the first dose can be given up to 15 weeks of age. No dose of the vaccine will be given to babies over 24 weeks of age.

## **How is the vaccine given?**

Rotavirus vaccine is given as a liquid to make it easy for your baby to swallow.

## **Does the vaccine have any side effects?**

Many millions of doses of the vaccine have been used and it has a good safety record. Babies who have had the vaccine can sometimes become restless and irritable, and some may even develop mild diarrhoea.

In very rare cases (about 2 in every 100,000 babies vaccinated), the vaccine can affect the baby's lower gut and they may develop abdominal pain, vomiting, and sometimes they may pass what looks like redcurrant jelly in their nappies. If this happens, you should contact your doctor immediately.

The rotavirus vaccine is called Rotarix. To read the patient information leaflet, visit [www.medicines.org.uk/emc/product/2739/pil](http://www.medicines.org.uk/emc/product/2739/pil).



# Vaccines at one year of age

Your child will need the PCV and the MenB vaccine at one year of age to boost their protection against meningococcal B and pneumococcal infections. These vaccines will help to protect your child through early childhood.

Your child will also have their first dose of MMR at this time to protect against measles, mumps and rubella. Your child will need a second dose of MMR vaccine at 18 months of age.

## The routine primary vaccinations for babies at one year of age

Each vaccination is given as a single injection into the muscle of the child's thigh or upper arm.

When	Diseases protected against	Vaccine given
One year old on or soon after the child's first birthday	Pneumococcal booster	PCV
	Measles, mumps and rubella	MMR*
	MenB	MenB booster

\*One of the 2 MMR vaccines available contains porcine gelatine

## MenB booster vaccine

**Your child should be vaccinated with their booster dose of MenB vaccine when they are one year of age, at the same time as their PCV vaccinations and their first MMR vaccination.**

This booster dose provides longer-term protection against meningitis and septicaemia caused by 'meningococcal group B' bacteria.

### After immunisation with MenB vaccine

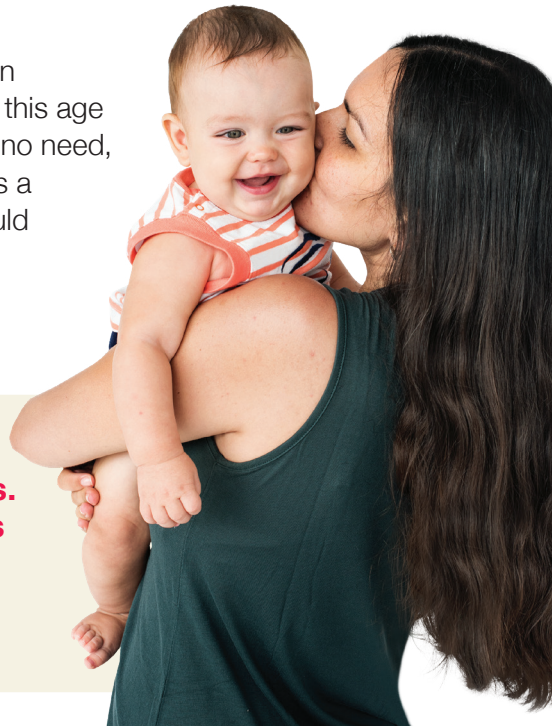
Some babies may:

- have redness, swelling or tenderness where they had the injection (this will slowly disappear on its own within a few days) and/or
- be a bit irritable and go off their food

The risk of fever, which is common after the vaccinations at 8 and 12 weeks of age (see page 23), is much less common after this vaccination because babies at this age can tolerate the vaccine better. There is no need, therefore, for paracetamol to be given as a precautionary measure, although it should be given if a fever does occur.

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**Both meningitis and septicaemia are very serious. See page 40 for descriptions of the diseases, their signs and symptoms, and what to do about them.**



## Pneumococcal booster vaccine (PCV)

**Your child should be vaccinated with their booster dose of PCV at one year of age at the same time as their MenB booster and MMR vaccinations.**

This booster vaccination provides longer-term protection against pneumococcal infection.

### **After immunisation with the PCV booster**

Out of 10 babies vaccinated, 1 or 2 may get swelling, redness or tenderness where they had the injection, or they may have a mild fever (see also pages 10 and 11).



## MMR vaccine

**Your child should be vaccinated with their first dose of MMR vaccine at one year of age at the same time as their MenB and PCV vaccinations.**

MMR protects your child against measles, mumps and rubella.

### **What is the MMR vaccine?**

The MMR vaccine contains weakened versions of live measles, mumps and rubella viruses. Because the viruses are weakened, people who have had the vaccine cannot infect other people. In the UK we have 2 MMR vaccines. Both of the vaccines work very well, one contains porcine gelatine (gelatine derived from pigs) and the other doesn't.

If you want your child to have the porcine gelatine free vaccine, talk to your practice nurse or GP.

### **How and when is the vaccine given?**

The vaccine is injected into the muscle of the child's thigh or upper arm. It is given to a child at one year of age after the immunity they got from their mother wears off. It should be given again when children are 18 months of age or soon after.

### **How effective is the MMR vaccine?**

Since it was introduced in the UK in 1988, the MMR vaccine has dramatically reduced the 3 diseases (measles, mumps, rubella) in young children.

## **What is measles?**

Measles is caused by a very infectious virus. Nearly everyone who catches it will have a high fever, a rash and generally be unwell. Children often have to spend about 5 days in bed and could be off school for 10 days.

Adults are likely to be ill for longer. It is not always possible to tell who will be seriously affected by measles. Around 1 in every 5 people with measles will go to hospital. The complications include chest infections, fits, encephalitis (infection of the brain), and brain damage. In very serious cases, measles can kill.

Before measles vaccine was introduced in 1968, around 500,000 cases and a 100 deaths occurred in the UK in epidemic years. In 1987 (the year before the MMR vaccine was introduced in the UK), 86,000 children caught measles and 16 died.

## **How is it spread?**

Measles is one of the most infectious diseases known. A cough or a sneeze can spread the measles virus over a wide area. If your child is not protected, the chance of catching measles is extremely high if you come near to anyone who has or is developing measles.

## **What is mumps?**

Mumps is caused by a virus which can lead to fever, headache, and painful, swollen glands in the face, neck and jaw. It can result in permanent deafness, viral meningitis (infection of the lining of the brain) and encephalitis. Rarely, it causes painful swelling of the testicles in males and the ovaries in females. Mumps lasts about 7 to 10 days. Before the MMR vaccine was introduced, about 1,200 people a year in the UK went into hospital because of mumps.

## **How is it spread?**

Mumps is spread in the same way as measles. It is about as infectious as flu.

## **What is rubella?**

Rubella is also caused by a virus. In children it is usually mild and can go unnoticed. It causes a short-lived rash, swollen glands and a sore throat. When a pregnant woman catches rubella it can affect their unborn baby, causing serious damage to their sight, hearing, heart and brain. This condition is called congenital rubella syndrome (CRS). When the infection is caught in the first 3 months of pregnancy it causes damage to the unborn baby in 9 out of 10 cases.

## **How is it spread?**

Rubella is spread in the same way as measles and mumps. It is about as infectious as flu.

## **After vaccination with MMR**

The 3 viruses in the vaccine act at different times and may produce the following side effects after the first dose.

- 6 to 10 days after the immunisation, as the measles part of the vaccine starts to work, about 1 in 10 children may develop a fever and some develop a measles-like rash (for advice on treating a fever, see page 11)
- about one in every 1,000 vaccinated children may have a fit caused by a fever. This is called a 'febrile convulsion' (see page 14). However, if a child who has not been vaccinated gets measles, they are 5 times more likely to have a fit

- rarely, children may get mild mumps-like symptoms (fever and swollen glands) about 3 weeks after their immunisation as the mumps part of the vaccine starts to work
- very rarely, children may get a rash of small bruise-like spots in the 6 weeks after the vaccination. This is usually caused by the measles or rubella parts of the vaccine. If you see spots like these, take your child to the doctor to be checked. He or she will tell you how to deal with the rash
- fewer than one child in a million develops encephalitis (swelling of the brain) after the MMR vaccine. However, if a child who has not been vaccinated catches measles, the chance of developing encephalitis is between 1 in 200 and 1 in 5,000

Side effects after the second dose are even less common and usually milder.

### **Egg allergies**

The MMR vaccine can safely be given to children who have had a severe allergy (anaphylactic reaction) to egg. This is because MMR vaccine is grown on chick cells, not the egg white or yolk. If you have any concerns, talk to your health visitor, practice nurse or doctor.

### **Does the MMR vaccine contain gelatine?**

In the UK, we have 2 MMR vaccines which work very well. One of them contains gelatine and the other one doesn't. If you would prefer to have the vaccine that does not contain porcine gelatine, talk to your practice nurse or GP. To read the patient information leaflets for both of the MMR vaccines, visit:

MMRVAXPRO: [www.medicines.org.uk/emc/product/6307/pil](http://www.medicines.org.uk/emc/product/6307/pil)

Priorix: [www.medicines.org.uk/emc/product/1159/pil](http://www.medicines.org.uk/emc/product/1159/pil)

## MMR and autism

In the past, there have been stories in the media linking MMR with autism. It's now acknowledged that there is no such link.

## Won't giving my baby MMR vaccine, with MenB and PCV at the same time overload their immune system?

No. From birth, babies' immune systems protect them from the germs that surround them. Without this protection, babies would not be able to cope with the tens of thousands of bacteria and viruses that cover their skin, nose, throat and intestines. This protection carries on throughout life.

In theory, a baby could respond effectively to around 10,000 vaccines at any one time. The baby's immune system can and does easily cope with the MMR, MenB and pneumococcal vaccines at the same time.

## Side effects

Any side effects other than the common symptoms should be reported to your practice nurse or GP. Parents and carers can also report suspected side effects of vaccines and medicines through the Yellow card scheme from the Medicines and Healthcare Products Regulatory Agency (MHRA).



### Yellow card MHR

You can do this online by visiting [yellowcard.mhra.gov.uk](https://yellowcard.mhra.gov.uk) or by calling the Yellow Card hotline on Freephone 0800 100 3352 (available Monday to Friday from 9am to 5pm)

# Other vaccinations



## BCG vaccine

### Protecting babies against tuberculosis (TB)

In the UK, like many other countries, BCG is only offered to babies who are more likely than the general population to come into contact with someone with TB. This is because they either live in an area with high rates of TB or their parents or grandparents came from a country with high rates of TB.

The vaccination is usually offered around the first month after birth.

### What is TB?

TB is an infection that usually affects the lungs. It can also affect other parts of the body, such as the lymph glands, bones, joints and kidneys. Most cases can be cured with treatment. TB can also cause a very serious form of meningitis.

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**Although TB is no longer as common in the UK, worldwide it kills around 2 million people a year.**

## Reasons why your baby shouldn't have the BCG vaccination

As with most other vaccinations, the injection may not be given or should be delayed if:

- your baby has a high fever
- your baby is suffering from a generalised infected skin condition. If eczema is present, an injection site will be chosen that is free from skin lesions

Rarely, in children who have weakened immune systems, the bacteria in the vaccine can cause serious infection.

It is very important that you tell the nurse or doctor if your child has, or is suspected of having, a weakened immune system. For example:

- the child is on treatment for cancer or other serious conditions
- the child's mother had immunosuppressive biological therapy in pregnancy
- there is a family history of problems with the immune system (for example HIV, Severe Combined Immunodeficiency (SCID))
- babies who have or might have SCID

Your baby may be tested for SCID if this is suspected. Once your baby has had a SCID negative result, the BCG vaccination can go ahead.

## After immunisation

A blister or sore may appear where the injection is given. If it does appear, it will heal gradually, and it is best if you do not cover it up. The sore may leave a small scar. If you are worried or think the sore has become infected, see your doctor.

The BCG vaccine is called BCG Vaccine AJV. To read the patient information leaflet, visit [www.medicines.org.uk/emc/product/9890/pil](http://www.medicines.org.uk/emc/product/9890/pil)

You can read the TB, BCG and your baby leaflet here for more information: [www.gov.uk/government/publications/tb-bcg-and-your-baby-leaflet](http://www.gov.uk/government/publications/tb-bcg-and-your-baby-leaflet)

## Hepatitis B vaccine

### Protecting babies against hepatitis B

Although the hepatitis B vaccine is part of the routine childhood immunisation programme, additional doses are given to babies whose mothers have hepatitis B. This reduces the risk of the baby getting infection from their mother during birth. If the vaccinations are given on time they reduce the risk of the baby developing hepatitis B by over 90%.

Babies at high risk of developing hepatitis B infection are given 6 doses of hepatitis B containing vaccine.

- the first dose of hepatitis B vaccine is given as soon as possible, but within 24 hours of birth
- a second dose of hepatitis B vaccine is given when the baby is 4 weeks old
- the baby will then transfer to the routine immunisation schedule and will get their first dose of DTaP/IPV/Hib/HepB at 8 weeks of age
- a second dose of DTaP/IPV/Hib/HepB is given at 12 weeks of age
- a third dose of DTaP/IPV/Hib/HepB is given when the baby is 16 weeks of age
- at 18 months of age the baby will be given their final dose of hepatitis B vaccine which is necessary to provide longer-term protection

A blood test is taken between 12 and 18 months to check that the baby has not developed hepatitis B.

There are 2 hepatitis B vaccines used called Engerix B and HBVAXPRO. To read the patient information leaflets, visit:

Engerix B: [www.medicines.org.uk/emc/product/8404/pil](http://www.medicines.org.uk/emc/product/8404/pil)

HBVAXPRO: [www.medicines.org.uk/emc/product/1684/pil](http://www.medicines.org.uk/emc/product/1684/pil)

## What is hepatitis?

Hepatitis means inflammation of the liver. This can be caused by different things, including infection with hepatitis viruses. The vaccine protects against hepatitis caused by the hepatitis B virus, but it does not protect against other types of hepatitis.

The hepatitis B virus is passed through infected blood including from mothers to their babies during birth. If you are pregnant and have hepatitis B, or if you get the infection during your pregnancy, you could pass it on to your baby. Your baby may not be ill immediately after birth but they have a high chance of developing serious liver disease later in life. Some people carry the virus in their blood without knowing it.

Pregnant women in the UK are offered a hepatitis B test during their antenatal care. If you have hepatitis B, your baby should receive a course of vaccines, starting straight after birth, to prevent them from becoming infected. It is safe to breastfeed your baby as long as they receive their vaccines on time.

### After immunisation

The side effects of the hepatitis B vaccine are usually quite mild. There could be some redness, soreness or tenderness where the injection is given. This lasts for a few days (see also pages 10 and 11).

For more information, visit [www.nhs.uk/conditions/vaccinations/hepatitis-b-vaccine](http://www.nhs.uk/conditions/vaccinations/hepatitis-b-vaccine)



# Watch out for meningitis and septicaemia

Both meningitis and septicaemia are very serious. It is important that you recognise the signs and symptoms and know what to do if you see them. Early symptoms of meningitis and septicaemia may be similar to a cold or flu (fever, vomiting, irritability and restlessness). However, people with meningitis or septicaemia can become seriously ill within hours, so it is important to act fast.

## **What is meningitis?**

Meningitis is an infection of the lining of the brain. Meningitis can be caused by several types of bacteria including pneumococcus, meningococcus and Haemophilus influenzae or by viruses.

## **What is septicaemia?**

Septicaemia is a very serious condition when the bloodstream is infected. Septicaemia can be caused by several types of bacteria including pneumococcus, meningococcus and Haemophilus influenzae. The signs are cold hands and feet, pale skin, vomiting and being very sleepy or finding it difficult to wake up, and these signs can come on quickly. If you suspect your baby or someone else has septicaemia, get help urgently.

The bacteria that cause meningitis and septicaemia (blood poisoning), can also cause pericarditis (inflammation of the lining of the sac that contains the heart) and arthritis (swelling of the joints) and other serious infections.

**In babies the main symptoms of meningitis may include:**

- a high-pitched, moaning cry
- being irritable when picked up
- a bulging fontanelle
- feeling drowsy and not responding to you, or being difficult to wake
- being floppy and having no energy
- stiff with jerky movements (convulsions/fits)
- refusing feeds and vomiting
- having skin that is pale, blotchy or turning blue
- a fever

**In babies the main symptoms of septicaemia may include:**

- a high-pitched moaning cry
- fever and shivering
- vomiting
- severe pains and aches in limbs and joints
- very cold hands and feet
- pale or mottled skin
- rapid breathing
- diarrhoea and stomach cramps
- red or purple 'bruised' or blotchy rash on skin that does not fade under pressure – do the glass test shown overleaf. On dark skin, check inside the eyelids or roof of the mouth where the spots may be more visible
- difficulty walking or standing
- severe sleepiness, losing consciousness

Not everyone will develop all these symptoms, and this list may not be exhaustive. They can appear in any order and be mixed between the 2 illnesses. It is important to seek early medical advice if your baby (or anyone else) has symptoms of concern or a condition that is getting rapidly worse.

**In older children, adolescents and adults, the main symptoms of meningitis may include:**

- a stiff neck (check that they can kiss their knees or touch their forehead with their knees)
- a very bad headache (although this on its own is not a reason to get medical help)
- wanting to avoid bright lights
- vomiting
- a fever
- tiredness, being less responsive and confused
- a rash

**In older children, adolescents and adults, the main symptoms of septicaemia may include:**

- sleepiness, being less responsive, uninterested or confused (a late sign in septicaemia)
- severe pains and aches in the arms, legs and joints
- very cold hands and feet
- shivering
- rapid breathing
- red or purple spots that do not fade under pressure (do the 'glass test' explained next page). On dark skin, check inside the eyelids or roof of the mouth where the spots may be more visible
- vomiting
- a fever
- diarrhoea and stomach cramps

The signs and symptoms of meningitis and septicaemia are listed on the previous pages. Symptoms can occur in any order and some may not appear at all. Some of the symptoms are very similar to those of flu, so, if you're in any doubt about the health of your baby, trust your instincts and get advice urgently by contacting your doctor or call the NHS on 111.

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### **The 'glass test'**

Press the side of a clear drinking glass firmly against the rash so you can see if the rash fades and loses colour under pressure. If it doesn't change colour, seek appropriate medical advice immediately.



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### **Where can I get more information?**

[www.nhs.uk/conditions/meningitis](http://www.nhs.uk/conditions/meningitis)

The following charities provide information, advice and support:

#### **Meningitis Research Foundation**

Free helpline 080 8800 3344 (Mon–Fri 9am to 5pm)

[www.meningitis.org](http://www.meningitis.org)

#### **Meningitis Now**

Free helpline

0808 80 10 388 (Mon–Thurs 9am to 4pm, Fridays 9am to 1pm)

[www.meningitisnow.org](http://www.meningitisnow.org)

You can also ask your doctor, practice nurse or health visitor for advice, or for non-urgent enquiries call the free NHS helpline 111 or visit: [www.nhs.uk/conditions/vaccinations/childhood-vaccines-timeline](http://www.nhs.uk/conditions/vaccinations/childhood-vaccines-timeline) where you can find out more about vaccination.

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## Routine childhood immunisation programme from July 2025

Most vaccines are given as an injection in the thigh or upper arm. Rotavirus vaccine is given as drops to be swallowed and influenza vaccine is available as a nasal spray for older children.

### Vaccine Damage Payment Scheme

Current vaccinations are extremely safe but, very rarely, an individual may suffer from a problem after vaccination.

The Vaccine Damage Payment Scheme is designed to ease the present and future burdens of the person who, on that very rare occasion, may be affected by the vaccination.

There are several conditions that need to be met before a payment can be made. If you need more information, please visit [www.gov.uk/vaccine-damage-payment](http://www.gov.uk/vaccine-damage-payment)

### Vaccine Damage Payments Unit

Department for Work and Pensions

Palatine House, Lancaster Road

Preston PR1 1HB

Phone: 01772 899944

E-mail: [CAU-VDPU@dpw.gsi.gov.uk](mailto:CAU-VDPU@dpw.gsi.gov.uk)

If you want advice on immunisation, speak to your doctor, practice nurse, health visitor or pharmacist, or call the **NHS helpline 111**.

For more information visit [www.nhs.uk/conditions/vaccinations](http://www.nhs.uk/conditions/vaccinations)

Age due	Vaccines that protect against	Vaccine given
Eight weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB (6 in 1 vaccine)
	Meningococcal group B (MenB)	MenB
	Rotavirus gastroenteritis	Rotavirus
Twelve weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB (6 in 1 vaccine)
	MenB	MenB
	Rotavirus	Rotavirus
Sixteen weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB (6 in 1 vaccine)
	Pneumococcal (13 serotypes)	PCV
One year old (on or after the child's first birthday)	Pneumococcal Measles, mumps, rubella MenB	PCV MMR MenB
Eighteen months old	DTaP/IPV/Hib/HepB Measles, mumps, rubella	DTaP/IPV/Hib/HepB MMR
Three years four months old or soon after	Diphtheria, tetanus, pertussis and polio	dTaP/IPV
Boys and girls aged twelve to thirteen years	Cancers and genital warts caused by specific human papillomavirus (HPV) types	HPV
Fourteen years old (school Year 9)	Tetanus, diphtheria and polio	Td/IPV
	Meningococcal groups A, C, W and Y	MenACWY

## **Additional vaccines for individuals with underlying medical conditions**

Because they are at more risk of becoming severely unwell and having to be admitted to hospital if they have some infectious diseases, people (including babies and young children) with underlying medical conditions may be offered additional vaccines, for example an annual flu vaccine. Speak to your child's GP, nurse or health visitor if you think that this applies to your child.





## Travel advice for children

If your child is going abroad, it is really important to make sure their routine vaccinations are up to date. Your child may also need extra vaccinations and you may also need to take other precautions. Contact your doctor's surgery or a travel clinic well in advance for up-to-date information on the vaccinations your child may need.

## For more information

You can get more information on the NHS website at [www.nhs.uk](http://www.nhs.uk) and the Travel Health pro website:

<http://travelhealthpro.org.uk>

## Remember your child's next vaccinations after one year, is 18 months!

Keep your Red book in a safe place and bring it with you when your child is ready for their next appointment.



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This edition features the July 2025 immunisation schedules.

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0300 123 1002 (lines are open Monday to Friday 8pm to 6pm)

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[www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations)