

A guide to

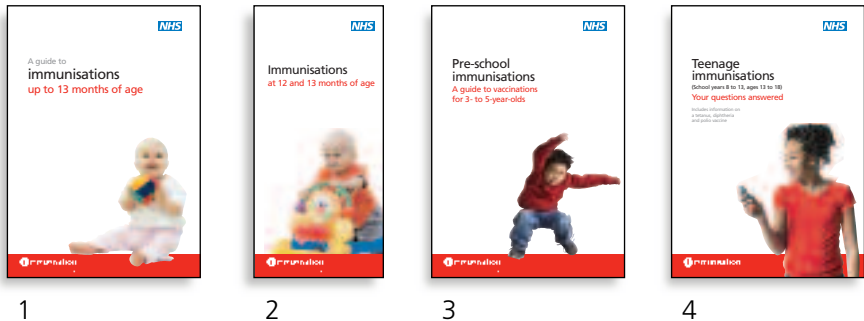
# immunisations

up to 13 months of age



# The complete routine childhood immunisation programme

These booklets describe the immunisations offered to your child during the first 18 years of their life.



## 1 A guide to immunisations up to 13 months of age

Covers all the immunisations up to 13 months but describes in detail those at 2, 3 and 4 months.

## 2 Immunisations at 12 and 13 months of age

A reminder leaflet to get your child immunised at 12 and 13 months.

## 3 Pre-school immunisations – a guide to vaccinations for 3- to 5-year-olds

Details of the immunisations for your child at 3 to 5 years of age before they start school.

## 4 Teenage immunisations – your questions answered

Describes teenage immunisations at 13 to 18 years.

The complete immunisation programme is shown in detail on the back cover of this leaflet.

Copies of these booklets are available from your clinic or doctor's surgery. See also [www.immunisation.nhs.uk](http://www.immunisation.nhs.uk).

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Childhood immunisation programme – a quick reference guide to your child's immunisations.

# Summary of immunisations up to 13 months of age

## Which immunisations will my baby have at 2, 3 and 4 months?

At 2 months, your baby will have immunisations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b (Hib), and pneumococcal infection.

At 3 months, your baby will have immunisations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b (Hib), and meningitis C (meningococcal infection).

At 4 months, your baby will have immunisations against:

- diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b (Hib), pneumococcal infection and meningitis C.

## Which immunisations will my baby have at 12 and 13 months?

At 12 months, your baby will have immunisations against:

- *Haemophilus influenzae* type b (Hib) and meningitis C.

At 13 months, your baby will have immunisations against:

- measles, mumps, rubella and pneumococcal infection.

'The two 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 serious diseases. Once we have been immunised, our bodies are better able to fight those diseases if we come into contact with them.

## **How do vaccines work?**

Vaccines contain a small part of the bacterium or virus that causes a disease, or tiny amounts of the chemicals that the bacterium produces. Vaccines work by causing the body's immune system to make antibodies (substances that fight off infection and disease). If your child comes into contact with the infection, the antibodies will recognise it and be ready 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.

There are some diseases that can kill children or cause lasting damage to their health. Immunisations are given to prepare your child's immune system to fight off those diseases if they come into contact with them.

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

It is important that your baby has their immunisations at the right age – the first ones are given at two months old. They will be given further doses of these immunisations when they are three months old and four months old. Other immunisations are given at around 12 months and 13 months of age, then between three and five years of age (before your child starts school), and in their teenage years (see the table on the back cover of this leaflet).

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

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 the diseases.

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

Most immunisations have to be given more than once to prepare your child's immunity. For example, three doses of DTaP/IPV/Hib vaccine are needed to provide protection in babies. Booster doses are then given later in life to provide longer-term protection.

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

Your doctor's surgery or clinic will send you an appointment for you to bring your baby for their immunisation. 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 immunisations are free.

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

The doctor or nurse will explain the immunisation process to you, and answer any questions you have. The vaccine is injected into the muscle of the child's thigh.

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

If you missed the appointment or delayed the immunisation, make a new appointment. You can pick up the immunisation schedule where it stopped without having to start again.



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

In the UK, these diseases are kept at bay by high immunisation rates. Around the world, more than 15 million people a year die from infectious diseases. More than half of these are children under the age of five. Most of these deaths could be prevented by immunisation. As more people travel abroad and more people come to visit this country, there is a risk that they will bring these diseases into the UK. The diseases may spread to people who haven't been immunised so your baby is at greater risk if he or she has not been immunised. Immunisation 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 immunised. (See page 13 for details.)

**Remember, it's never too late to have your child immunised. Even if your child has missed an immunisation and is older than the recommended ages, talk to your doctor, practice nurse or health visitor to arrange for your child to be immunised.**

## **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 immunisation 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 injection?**

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, or
- have a temperature (fever). (See also page 21.)

## **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 could check their temperature with a thermometer.



## How to treat a 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 paracetamol or ibuprofen liquid may help reduce your child's fever. Read the instructions on the bottle very carefully. You may need to give a second dose four to six hours later.

**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 **NHS Direct on 0845 4647**.

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 and 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 he or she have the vaccine?**

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, 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 immunisations.

Even more rarely, children can have a severe reaction, 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 only one anaphylactic reaction in about a million immunisations. The people who give immunisations 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.**

## **Do these childhood vaccines contain thiomersal?**

None of the routine vaccines described in this leaflet contains thiomersal.



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

There are very few reasons why babies cannot be immunised. The vaccines should not be given to babies who have had:

- a confirmed anaphylactic reaction to a previous dose of the vaccine, or
- a confirmed anaphylactic reaction to neomycin, streptomycin, or polymyxin B (antibiotics that may be added to vaccines in very tiny amounts).

In general, children who are 'immunosuppressed' should not receive live vaccines. 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, or
- who have any condition which affects the immune system, such as severe primary immunodeficiency. (Primary immunodeficiencies are very rare diseases that mean you are more likely to catch infections than is normal. They are usually caused by a faulty gene and are usually diagnosed soon after birth.)

If this applies to your child, you must tell your doctor, practice nurse or health visitor before the immunisation. They will need to get specialist advice on using live vaccines such as MMR 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 immunisations as normal. If your baby is ill with a fever, put off the immunisation 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.

If your baby:

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

Speak to your doctor, practice nurse or health visitor before your child has any immunisation.

## 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 six months of life and are most common in the second year of life. After this age, they become less frequent and are rare after the age of five years. Most children who have febrile seizures recover fully. When a child has a seizure within a short time after immunisation, it might not have been caused by the vaccine or the fever. It could be due to an underlying medical condition. If your baby has a fit after an immunisation, contact your doctor. He or she may refer you to a specialist for advice about further investigations and future immunisations. If the surgery is closed or if you can't contact your doctor, go straight to the emergency department of your nearest hospital.

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

Premature babies may be at greater risk of infection. They should be immunised in line with the recommended schedule from two months after birth, no matter how premature they were.

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

In the UK, parents can decide whether or not to have their children immunised. 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?**

Contrary to popular belief, you can take your baby swimming at any time before and after their immunisation.

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

There is no other proven, effective way to immunise your child. The Faculty of Homeopathy (the registered organisation for doctors qualified in homeopathy) follows the Department of Health guidelines and advises parents to have their children immunised with standard vaccines, unless there are medical reasons for not doing so. For more information, visit **[www.trusthomeopathy.org](http://www.trusthomeopathy.org)**.

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

Immunisation programmes are regularly reviewed to make sure that all children are offered 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:

- introducing a new pneumococcal vaccine (PCV) at two and four months, with a booster at 13 months
- changing the timing of the MenC immunisations, to include a booster dose at 12 months, and
- adding a booster dose of Hib vaccine at 12 months.



# The childhood immunisation programme



## The childhood immunisation programme

Immunisations are given to babies at two, three and four months of age, with further doses given at 12 and 13 months.

### Immunisations at two, three and four months of age

You will be offered DTaP/IPV/Hib, MenC and PCV for your baby during the first four months of their life – see the table on page 19. The vaccines are described below, together with the diseases they protect against.

#### DTaP/IPV/Hib vaccine

Your baby should be immunised with DTaP/IPV/Hib vaccine when they are two, three and four months old.

The DTaP/IPV/Hib vaccine protects against five different diseases – diphtheria, tetanus, pertussis (whooping cough), polio and *Haemophilus influenzae* type b (Hib). Your child should have a Hib booster (in combination with MenC) at 12 months of age; boosters against diphtheria, tetanus, pertussis and polio before they start school; and a further tetanus, diphtheria and polio booster between the ages of 13 and 18 years.

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

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

## The routine primary immunisation programme for babies at two, three and four months of age

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

At what age to immunise	Diseases protected against	Vaccine given
<b>Two months old</b>	Diphtheria, tetanus, pertussis, polio, <i>Haemophilus influenzae</i> type b (Hib) and pneumococcal infection	DTaP/IPV/Hib and PCV
<b>Three months old</b>	Diphtheria, tetanus, pertussis, polio, <i>Haemophilus influenzae</i> type b (Hib) and meningitis C	DTaP/IPV/Hib and MenC
<b>Four months old</b>	Diphtheria, tetanus, pertussis, polio, <i>Haemophilus influenzae</i> type b (Hib), meningitis C and pneumococcal infection	DTaP/IPV/Hib, MenC and PCV

### 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 this country, there were up to 70,000 cases of diphtheria a year, causing up to 5000 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 up to 10 weeks. 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 so serious in older children. Before the pertussis vaccine was introduced, the average number of cases of whooping cough reported each year in the UK was 120,000, and 92 children died in the year before the vaccine was introduced.

## 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 kill. Before the polio vaccine was introduced, there were as many as 8000 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 20 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. 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 type of meningitis. The illnesses caused by Hib can kill if they are not treated quickly. Before the Hib vaccine was introduced, there were about 800 cases of Hib in young children every year.

There are several types of meningitis that can be caused by bacteria and viruses (see the section on meningitis and septicaemia).

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

Your baby might get some of the following side effects, which are usually mild.

- It is quite normal for your baby to be miserable for up to 48 hours after having the injection.
- **Your baby could develop a mild fever (see page 10).**
- You might notice 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 vaccine and you are concerned about it, talk to your doctor, practice nurse or health visitor.

Parents and carers can also report suspected side effects of vaccines and medicines through the Yellow Card Scheme. You can do this online by visiting [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk) or by calling the Yellow Card hotline on Freephone 0808 100 3352 (available Monday to Friday from 10am to 2pm).

## **Pneumococcal vaccine (PCV)**

Your baby should be immunised with PCV when they are two and four months old.

### **What is pneumococcal infection?**

Pneumococcal (pronounced new-mo-cock-al) infection is one of the commonest causes of meningitis but it also causes ear infections (otitis media), pneumonia and some other serious illnesses.

PCV provides some protection against one of the commonest causes of meningitis, and also against other conditions such as severe ear infections (otitis media), and pneumonia caused by pneumococcal bacteria. This vaccine does not protect against all types of pneumococcal infection and does not protect against meningitis caused by other bacteria or viruses (see the meningitis and septicaemia section on page 35).

### **After immunisation with PCV**

Out of every 10 babies immunised, one or two may get swelling, redness or tenderness at the injection site or get a mild fever (see also pages 10 and 21).

## **MenC vaccine**

Your baby should be immunised with MenC vaccine when they are three and four months old.

This vaccine protects against meningitis and septicaemia (blood poisoning) caused by 'meningococcal group C' bacteria. Before the vaccine was introduced, this disease led to about 1500 cases and 150 deaths each year. MenC vaccine does not protect against meningitis caused by other bacteria or by viruses (see page 35).

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

Since the vaccine was introduced, the number of babies under the age of one with group C disease has fallen by about 95%. A booster dose of MenC in the second year of life is needed to provide longer-term protection.

Both meningitis and septicaemia are very serious. See page 35 for descriptions of the diseases, their signs and symptoms, and what to do about them.

### **After immunisation with MenC vaccine**

Your baby may have redness, swelling or tenderness where they had the injection. About half of all babies who have the vaccine may become irritable, and about one in 20 could get a mild fever (see also pages 10 and 21).

## Immunisations around 12 and 13 months of age

Your child will need a dose of the combined Hib/MenC vaccine at 12 months of age to boost their protection against *Haemophilus influenzae* type b (Hib) and meningococcal C infections. This booster will protect your child through early childhood. Your child will have their first dose of MMR vaccine at 13 months to protect against measles, mumps and rubella, and the PCV booster to provide longer-term protection against pneumococcal infections such as meningitis, pneumonia and otitis media – see the table on page 25. Your child will need a second dose of MMR vaccine before starting school.

### The routine primary immunisations for babies at 12 and 13 months of age

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

### Hib/MenC vaccine

Your baby should be immunised with their booster dose of Hib/MenC vaccine when they are 12 months old.

This booster dose provides longer-term protection against two causes of meningitis and septicaemia.

### After immunisation with Hib/MenC booster

Your baby may have redness, swelling or tenderness where they had the injection. About half of all babies who have the vaccine may become irritable, and about one in 20 could get a mild fever (see also pages 10 and 21).



At what age to immunise	Diseases protected against	Vaccine given
<b>Around 12 months</b>	<i>Haemophilus influenzae</i> type b (Hib) meningococcal C infections	Hib/MenC booster
<b>Around 13 months</b>	Measles, mumps and rubella and pneumococcal infections	MMR and PCV booster

## MMR vaccine

Your baby should be immunised with their first dose of MMR vaccine at around 13 months of age.

MMR protects your child against measles, mumps and rubella (German measles).

### 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.

### 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 around 13 months of age after the immunity they got from their mother wears off. It should be given again when children are aged between three and five years.

### How effective is the MMR vaccine?

Since it was introduced in the UK in 1988, the MMR vaccine has almost wiped out the three 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 five days in bed and could be off school for 10 days. Adults are likely to be ill for longer. It is not possible to tell who will be seriously affected by measles. The complications of measles affect one in every 15 children. The complications include chest infections, fits, encephalitis (infection of the brain), and brain damage. In very serious cases, measles can kill. 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. Because it's so infectious, the chances are your child will get measles if he or she is not protected.



### **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 seven to 10 days. Before the MMR vaccine was introduced, about 1200 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 (German measles) 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. Rubella is very serious for unborn babies. It can seriously damage their sight, hearing, heart and brain. This condition is called congenital rubella syndrome (CRS). Rubella infection in the first three months of pregnancy causes damage to the unborn baby in nine out of 10 cases. In many of the cases, pregnant women caught rubella from their own, or their friends', children. In the five years before the MMR vaccine was introduced, about 43 babies a year were born in the UK with congenital rubella syndrome.

### **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 three viruses in the vaccine act at different times and may produce the following side effects after the first dose.

- Six to 10 days after the immunisation, as the measles part of the vaccine starts to work, about one in 10 children may develop a fever and some develop a measles-like rash and go off their food (for advice on treating a fever, see page 11).
- About one in every 1000 immunised 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 immunised gets measles, they are five times more likely to have a fit.
- Rarely, children may get mumps-like symptoms (fever and swollen glands) about three 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 six 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, and there is very little evidence that it is actually caused by the vaccine. However, if a child who has not been vaccinated catches measles, the chance of developing encephalitis is between one in 200 and one in 5000.

Side effects after the second dose are even less common and usually milder (see also page 21).

## 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.

## MMR and autism

There have been many stories in the media linking MMR with autism. Some parents delayed their child's MMR immunisation or didn't have it at all, which led to outbreaks of measles. However, independent experts from around the world have found no scientific evidence for such a link. In fact, there is now a large amount of evidence showing that there is no link.

**MMR is the safest way to protect your child against measles, mumps and rubella.**



## **Pneumococcal vaccine (PCV)**

Your child should be immunised with their booster dose of PCV at 13 months of age.

This vaccination provides longer-term protection against pneumococcal infection.

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

Out of 10 babies immunised, one or two may get swelling, redness or tenderness where they had the injection, or they may have a mild fever (see also page 21).

### **Won't giving my baby MMR 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 and pneumococcal vaccines at the same time.

# Other immunisations



## **BCG vaccine**

### **Protecting babies against tuberculosis (TB)**

The BCG vaccine is not part of the immunisation programme for all children. The BCG vaccine is offered to those babies who are more likely than others to come into close and prolonged contact with someone with TB. If the vaccination is offered, it is usually while you and your baby are still in hospital, but it can be given later.

### **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.

### **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 (see also page 21).

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



## Hepatitis B vaccine

### Protecting babies against hepatitis B

The hepatitis B vaccine is not part of the routine childhood immunisation programme. The vaccine is currently given to babies whose mothers have hepatitis B to prevent the babies developing the disease.

- The first dose is given shortly after birth.
- A second dose is given when the baby is one month old.
- A third dose is given at two months old.
- A booster dose is given when the baby is 12 months old to provide longer-term protection.

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

### What is hepatitis?

Hepatitis is an infection of the liver caused by hepatitis viruses. Hepatitis B vaccine protects against the B type of the virus, but it does not protect against hepatitis caused by other types of the virus.

The hepatitis B virus is passed through infected blood from mothers to their babies.

If you are pregnant and have hepatitis B, or if you get the disease 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 becoming a carrier and 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, you should have your baby vaccinated 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 page 21).

For more information, visit [www.immunisation.nhs.uk](http://www.immunisation.nhs.uk) and type 'hepatitis B' in the search box.



# 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 know the signs and symptoms of these conditions.

## What is meningitis?

Meningitis is an infection of the lining of the brain. Meningitis can be caused by several types of bacteria or viruses.

Infection with meningococcal bacteria can also cause diseases such as meningitis, septicaemia (blood poisoning), pericarditis (inflammation of the lining of the sac that contains the heart) and arthritis (swelling of the joints).

## What is septicaemia?

Septicaemia is a very serious condition when the bloodstream is infected. 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 you or someone else has septicaemia, get help urgently.

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

- a high-pitched, moaning cry
- being irritable when picked up
- a bulging fontanelle (see the glossary on page 42)
- feeling drowsy and not responding to you, or being difficult to wake
- being floppy and having no energy or stiff with jerky movements
- refusing feeds and vomiting
- having skin that is pale, blotchy or turning blue, and
- a fever.

The main symptoms of **septicaemia** may include:

- rapid or unusual patterns of breathing
- skin that is pale, blotchy or turning blue
- fever with cold hands and feet
- shivering
- vomiting and refusing feeds
- red or purple spots that do not fade under pressure (**do the 'glass test'** explained on page 38)
- pain or irritability from muscle aches or severe limb or joint pain
- floppiness, and
- extreme tiredness.

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, and
- a rash.

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 on page 38)
- vomiting
- a fever, and
- diarrhoea and stomach cramps.

The signs and symptoms of meningitis and septicaemia are listed on the previous pages. It is important to remember that not everyone will develop all the symptoms listed. If an individual develops some of the symptoms listed, especially red or purple spots, get medical help **urgently**. If you can't get in touch with your doctor, or you are still worried after getting advice, trust your instincts and take your child to the emergency department of your nearest hospital.

### 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, contact your doctor immediately.



### Where can I get more information?

The Meningitis Research Foundation and the Meningitis Trust both provide information on meningitis.

Phone the Meningitis Research Foundation's free 24-hour helpline on 080 8800 3344 or visit the website at **[www.meningitis.org](http://www.meningitis.org)**.

Phone the Meningitis Trust's 24-hour helpline on 0845 6000 800 or visit the website at **[www.meningitis-trust.org](http://www.meningitis-trust.org)**.

You can also ask your doctor, practice nurse or health visitor for advice, or call **NHS Direct on 0845 4647**.

# Travel advice for children



If your child is going abroad, make sure their routine immunisations are up to date. Your child may also need extra immunisations.

Contact your doctor's surgery or a travel clinic well in advance for up-to-date information on the immunisations your child may need. Courses of most travel vaccines can be given over a four-week period, but you will need to allow more time if your child has not yet had their primary (first) course of the DTaP/IPV/Hib vaccine. If you find that you have less time before going abroad, it is still worth attending a clinic to make sure your child gets as much protection as possible, as well as getting information about reducing the risks of ill health abroad.

Depending on where you are going, your child may need to be immunised against other diseases such as yellow fever, and have a vaccination certificate as proof, before they can enter some countries. The yellow fever vaccination certificate becomes valid and effective 10 days after the vaccination is given.

### **Watch out for malaria**

Malaria is a serious infection that you can catch from mosquito bites. It is a major problem in tropical countries. If you are travelling to an area where there is malaria, your child will need protection.



## Avoiding mosquito bites

You should do all you can to prevent your child from getting bitten by mosquitoes.

- During the day and night, dress your child in clothes that cover the arms and legs.
- Use insect repellent on the skin and a mosquito net soaked in insecticide over the bed or cot at night.

Use an insect repellent that is suitable for children. Ask your pharmacist for advice.

There isn't an immunisation against malaria, but your doctor will be able to give you advice on anti-malarial drugs.

Anti-malarial drugs do not provide complete protection but they are important when you are travelling to some parts of the world. They can be quite difficult to take but there are some especially for children.

## For more information

You can get *Access to healthcare abroad* (product code number 286580), an information leaflet produced by the Department of Health, by visiting the DH Publications Orderline at [www.orderline.dh.gov.uk](http://www.orderline.dh.gov.uk).

You can also get more information on the Department of Health website at [www.dh.gov.uk](http://www.dh.gov.uk) or NHS Choices at [www.nhs.uk](http://www.nhs.uk).

# Glossary of terms

This glossary describes some of the terms relevant to your child's immunisations.

## **Acellular pertussis vaccine**

Whooping cough vaccine containing only parts of the pertussis bacterial cells which can produce immunity in the person receiving the vaccine.

## **Anaphylactic reaction**

An immediate and severe allergic reaction which needs urgent medical attention.

## **DTaP/IPV vaccine**

A combined vaccine that protects against four diseases – diphtheria, tetanus, pertussis (whooping cough) and polio. It contains acellular pertussis vaccine and inactivated polio vaccine. It is given to young children aged three years four months to five years as a pre-school immunisation.

## **dTaP/IPV vaccine**

A combined vaccine that protects against four diseases – diphtheria, tetanus, pertussis (whooping cough) and polio. It contains low-dose diphtheria vaccine, acellular pertussis vaccine and inactivated polio vaccine. It is an alternative to the DTaP/IPV vaccine that is given to pre-school children aged three years four months to five years.

## **DTaP/IPV/Hib vaccine**

A combined vaccine that protects against five diseases – diphtheria, tetanus, pertussis (whooping cough), polio and *Haemophilus influenzae* type b (Hib). It contains acellular pertussis vaccine and inactivated polio vaccine.

## **Fontanelle**

Space between the bones at the top of a baby's skull.

## **Hib/MenC vaccine**

A combined vaccine that protects against *Haemophilus influenzae* type b infections and meningococcal C infections.

**Inactivated polio vaccine (IPV)**

Polio vaccine made from viruses that have been killed.

**MenC vaccine**

A single vaccine that protects against meningococcal C infections.

**Neomycin**

An antibiotic put into vaccines to prevent contamination by bacteria.

**Pneumococcal conjugate vaccine (PCV)**

A vaccine that protects against infections caused by seven types of pneumococcal bacteria.

**Polymyxin B**

An antibiotic put into vaccines to prevent contamination by bacteria.

**Streptomycin**

An antibiotic put into vaccines to prevent contamination by bacteria.

**Td/IPV vaccine**

A combined vaccine that protects against three diseases – tetanus, diphtheria and polio. It contains tetanus, low-dose diphtheria and inactivated polio vaccine. It is given to young people aged 13 to 18 years to top up their levels of protection against the three diseases.

**Thiomersal**

A mercury-based preservative used in some vaccines during the production process or to prevent contamination.



## Vaccine Damage Payment Scheme

Most immunisations are given without any trouble at all, but very rarely there may be problems. The Vaccine Damage Payment Scheme is designed to help with the present and future financial burdens of the person affected by the vaccination and their family. It covers all the vaccines described in this booklet except hepatitis B vaccine. There are several conditions that need to be met before a payment can be made. If you need more information, please contact:

Vaccine Damage Payments Unit  
Department for Work and Pensions  
Palatine House  
Lancaster Road  
Preston  
PR1 1HB  
Phone: 01772 899944  
E-mail: **CAU-VDPU@dwp.gsi.gov.uk**

If you want more advice on immunisation, speak to your doctor, practice nurse or health visitor, or call **NHS Direct on 0845 4647**.

For more information or to ask questions, visit **[www.immunisation.nhs.uk](http://www.immunisation.nhs.uk)**.





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*guide to immunisations up to 13 months of age.*

Phone: 0300 123 1002  
Fax: 01623 724 524  
Minicom: 0300 123 1003  
(8am to 6pm, Monday to Friday)

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





## Routine childhood immunisation programme

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

At what age to immunise	Diseases protected against	Vaccine given
<b>Two months old</b>	Diphtheria, tetanus, pertussis (whooping cough), polio and <i>Haemophilus influenzae</i> type b (Hib) Pneumococcal infection	DTaP/IPV/Hib and Pneumococcal conjugate vaccine (PCV)
<b>Three months old</b>	Diphtheria, tetanus, pertussis, polio and <i>Haemophilus influenzae</i> type b (Hib) Meningitis C (meningococcal group C)	DTaP/IPV/Hib and MenC
<b>Four months old</b>	Diphtheria, tetanus, pertussis, polio and <i>Haemophilus influenzae</i> type b (Hib) Meningitis C Pneumococcal infection	DTaP/IPV/Hib and MenC and PCV
<b>Around 12 months old</b>	<i>Haemophilus influenzae</i> type b (Hib) Meningitis C	Hib/MenC
<b>Around 13 months old</b>	Measles, mumps and rubella (German measles) Pneumococcal infection	MMR and PCV
<b>Three years and four months or soon after</b>	Diphtheria, tetanus, pertussis and polio Measles, mumps and rubella	DTaP/IPV or dTaP/IPV and MMR
<b>Girls aged 12 to 13 years</b>	Cervical cancer caused by human papillomavirus types 16 and 18	HPV
<b>13 to 18 years old</b>	Tetanus, diphtheria and polio	Td/IPV

## Non-routine immunisations for at-risk babies

At what age to immunise	Diseases protected against	Vaccine given
<b>At birth</b> (to babies who are more likely to come into contact with TB than the general population)	Tuberculosis	BCG
<b>At birth</b> (to babies whose mothers have hepatitis B)	Hepatitis B	Hep B