

Timetable of routine childhood immunisations

When to immunise	What is given	How it is given
Two, three and four months old	Polio Diphtheria, tetanus, pertussis and Hib (DTP-Hib) MenC	By mouth One injection One injection
Around 13 months old	Measles, mumps and rubella (MMR)	One injection
Three to five years old (pre-school)	Polio Diphtheria, tetanus and acellular pertussis (DTaP) Measles, mumps and rubella (MMR)	By mouth One injection One injection
10 to 14 years old (and sometimes shortly after birth)	BCG (against tuberculosis)	Skin test, then, if needed, one injection
13 to 18 years old	Diphtheria and tetanus (Td) Polio	One injection By mouth

For more information on immunisation visit www.immunisation.org.uk

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Health Promotion England



A new guide to childhood immunisations for babies up to 15 months

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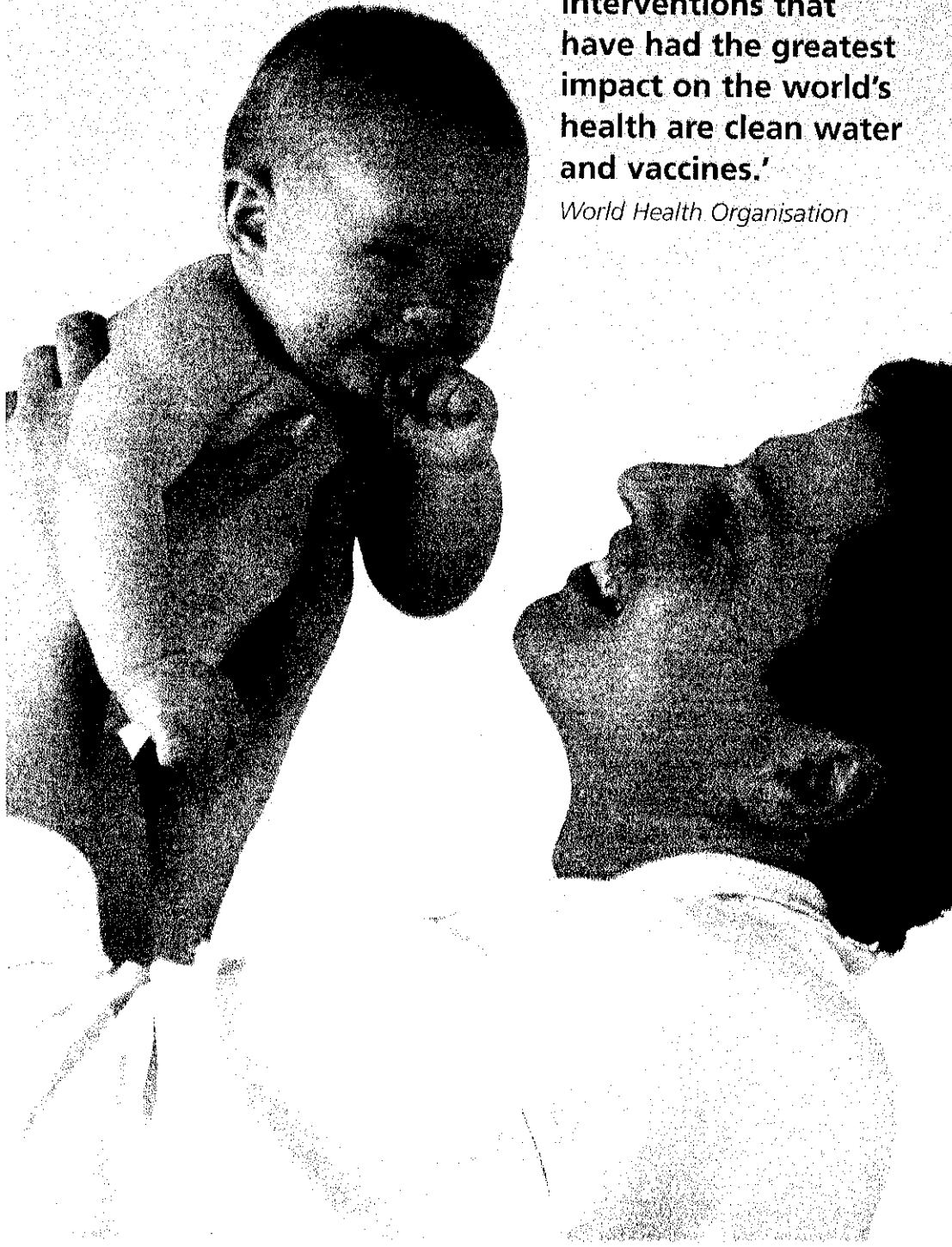
immunisation

the safest way to protect your child

Includes advice on recognising meningitis and septicaemia

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

World Health Organisation



Introduction

This guide is for parents with children up to the age of 15 months. It explains all about the immunisations that are given to babies and young children to protect them from serious childhood diseases. Inside, you will find information about the major diseases and why children need protection against them.

If you have more questions or you want more detailed information, speak to your doctor, practice nurse or health visitor. You can also visit www.immunisation.org.uk or call NHS Direct on 0845 46 47.



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What is immunisation?

Immunisation is a way of protecting ourselves from serious disease. Once we have been immunised, our bodies are more able to fight those diseases if we come into contact with them.

Why do we need immunisation?

Our bodies have a natural defence system against disease. This is called the immune system. The immune system produces substances called antibodies which fight off disease and infection.

There are some diseases that can kill children or cause lasting damage to their health, and sometimes your child's immune system needs help to fight those diseases. Immunisation provides that help.

Immunisation is the safest and most effective way of protecting your child against serious diseases.



Common questions about immunisation

When to have your child immunised

Your child should have their first immunisations 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 13 months old, then between three and five years old (before your child starts school), and in their teenage years.

Some immunisations have to be given more than once to build up your child's immunity (protection). This top-up dose is sometimes called a booster.

You will be sent an appointment inviting you to bring your child for their immunisations.

Most doctors' surgeries and health centres run special immunisation or baby clinics. You can often drop in at other times if you can't get to the clinic during the day.

All childhood immunisations are free

It is important that your child has their immunisations at the right age. This will help keep the risk of your child catching these diseases as low as possible. The risk of side effects from some vaccines may increase if you delay them.

At the appointment

Your child will be given an injection in their upper arm or thigh. If they are having the polio vaccine, it will be given to them as a liquid to swallow.



How does immunisation work?

Your child will be given a vaccine. A vaccine contains a small part of the bacteria or virus that causes a disease, or tiny amounts of the chemicals that the bacteria produce. Vaccines are specially treated so they do not cause the disease itself. Instead, they work by encouraging the body's immune system to make antibodies. If your child ever comes into contact with the disease, the antibodies will recognise it and be ready to protect your child.

Because vaccines have been used so successfully in the UK, diseases such as polio, diphtheria and measles have almost disappeared from this country.

If these diseases have almost disappeared, why do we need to immunise against them?

The diseases are still around in many parts of the world where immunisation is not so widely available, and there are still a few cases in this country. As more people travel abroad, there is a risk that they will bring these diseases back into the UK, and that the diseases will spread to people who haven't been immunised against them. Your child is at risk if they have not been immunised.

Immunisation doesn't just protect your child – it can help to protect your family and the whole community, especially those children who can't be immunised.

It is never too late to have your child immunised. Even if your child is older than the recommended ages, talk to your doctor, practice nurse or health visitor to arrange for them to be protected.



How do we know that the vaccines are safe?

Before anyone can be given a vaccine, it has to go through many tests to check that it is safe and that it works. These checks continue even after a vaccine has been introduced. Only vaccines that pass all of the safety tests are used. 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 a bit worried that my child will be upset by having an injection.

Your child may cry and be upset for a few minutes, but they will usually settle down after a cuddle. Many children don't get upset at all. If you don't want to be in the room when your child has the injection, tell the nurse or doctor beforehand. Some parents like to take a friend or partner to hold their child during the injection.

How will my child feel afterwards?

All children are different. Most will not have any side effects. Some children will:

- get a little redness or swelling where they had the injection, which will slowly disappear on its own; or
- feel a bit irritable and unwell and develop a temperature (fever).

Your practice nurse, GP or health visitor may suggest you give your child a dose of paracetamol liquid if they get a fever.

Turn the page to find out
how to treat a fever.

Very occasionally, children can have allergic reactions straight after immunisation. If they are treated quickly, they will recover completely. The people who give immunisations are trained to deal with allergic reactions.

Are there any reasons why my child should not be immunised?

There are very few reasons why a child should not be immunised. But you should let your health visitor, doctor or practice nurse know if your child:

- has a high fever;
- has had a bad reaction to any other immunisation;
- has had treatment for cancer;
- has a severe allergy to eggs;
- has a bleeding disorder;
- has had convulsions (fits).

You should also let them know if your child or any other close family member:

- has any illness which affects the immune system, for example, HIV or AIDS; or
- is taking any medicine which affects the immune system – for example, immunosuppressants (given after organ transplant or for cancer) or high-dose steroids.

Does my child have to be immunised?

In the UK, parents can decide whether to have their children immunised. Around the world, children are now routinely protected with vaccines. Because of this, some of the world's most serious diseases may soon disappear.

The childhood immunisation programme in the UK offers your child protection against many of these diseases.

Are there other ways to immunise my child?

There is no other proven, effective way to immunise your child. Homeopathic medicine has been tried as another way to protect against whooping cough, but it didn't work. The Council of the Faculty of Homeopathy (the registered organisation for doctors qualified in homeopathy) advises parents to have their children immunised with standard vaccines.

All about fever

A few children may develop a fever after immunisation.

A **fever** is a temperature over 37.5°C.

If your child's face feels hot to the touch and they look red or flushed, they probably have a fever. You could check their temperature with a thermometer.

Fevers are fairly common in children. They are usually mild, but it is important to know what to do if your child gets one.

How to treat a fever

- 1 Keep your child cool by:
 - gently sponging them with lukewarm (not cold) water and letting it dry on their skin; and
 - making sure they don't have too many layers of clothes or blankets on.
- 2 Give them plenty of cool drinks.
- 3 Give them paracetamol liquid, such as Calpol, Disprol or Medinol. Read the instructions on the bottle carefully and give your child the correct dose for their age. You may need to give them a second dose four to six hours later.

If your child's temperature is still high, ask your doctor for advice or call on

Do not give aspirin to children under 12 years old.

Call the doctor immediately if 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, go to your nearest hospital accident and emergency department. Follow your instincts and speak to your doctor if you are worried about your child.

Childhood immunisations

Around the world, 13 million people die from infectious disease every year. Over half of these people are children under the age of five. Most of these deaths could be prevented with immunisation.

Because of immunisation, many serious diseases have almost disappeared from the UK, but they are still around in other countries and they could come back.

The childhood immunisation programme gives your child the best protection from these diseases with the following vaccines.



DTP-Hib vaccine

The DTP-Hib vaccine protects against four different diseases – Diphtheria, Tetanus and Pertussis (or whooping cough) and Haemophilus influenzae type **b** (Hib).

Your baby should have a DTP-Hib immunisation at two, three and four months old.

They will be given a booster against diphtheria, tetanus and pertussis before they start school. (They don't need a booster against Hib.) They will get a tetanus and diphtheria booster between the ages of 13 and 18.

What is diphtheria?

Diphtheria is a disease that usually begins with a sore throat and can quickly cause problems with breathing. It can damage the heart and nervous system and, in severe cases, it can kill.

What is tetanus?

Tetanus is a painful disease that affects the muscles and can cause breathing problems. It is caused by germs that are found in soil and manure and can get into the body through open cuts or burns. Tetanus affects the nervous system and, if it is not treated, it can kill.

What is pertussis (whooping cough)?

Whooping cough is a disease that can cause long bouts of coughing and choking which can make it hard to breathe. It can last for up to 10 weeks. It is not usually serious in older children, but it can be very serious in babies under one year old.

What is Hib?

Hib is an infection that can cause a number of major illnesses like blood poisoning, pneumonia and meningitis. All of these illnesses can kill if they are not treated quickly.

The Hib vaccine only protects your child against one type of meningitis (Hib). It does not protect against any other type of meningitis.

After immunisation

Your child may get some of the following side effects, which are usually mild.

- It is quite normal for your baby to be miserable within 48 hours of having the injection.
- Your baby may develop a fever (see page 8).
- You may notice a small lump where your baby had the injection. This may last for a few weeks.

If your child has a worse reaction to the DTP-Hib vaccine, talk to your doctor, nurse or health visitor.

Sometimes, babies have fits a day or two after their DTP-Hib vaccination. If your baby has a fit, call your doctor immediately. Babies usually recover from fits quickly and completely. Young babies can have fits at any time, so having a fit after their vaccination may not necessarily be linked to the vaccine. Your doctor will decide whether your baby can have more doses of the vaccine. But if you delay the immunisation, it can increase the chances of fits after DTP-Hib. So it's important to make sure your child gets vaccinated at the right age.



Polio vaccine

Your baby should be immunised against polio at two, three and four months old. They will be given a booster before they start school and they will get another booster between the ages of 13 and 18. The polio vaccine protects against the disease poliomyelitis. Unlike other immunisations, it is given as a liquid to swallow.

What is polio?

Polio is a virus that attacks the nervous system and can permanently paralyse the muscles. If it affects the chest muscles, polio can kill. The virus is passed in the faeces (poo) of people with polio or people who have just been immunised against polio.

After immunisation

Make sure anyone who changes your baby's nappy washes their hands thoroughly afterwards. The vaccine will continue to be passed into your baby's nappy for up to six weeks. People who have not been immunised against polio themselves could be affected by the tiny amount of virus in the vaccine if they come into contact with it. There is about one case of this each year in the UK.

Anyone who has not had the polio vaccine, including grandparents who might be looking after your baby, should talk to their doctor about it. They can arrange to have the vaccine at the same time as your baby.

There is an extremely small chance of developing polio from the vaccine – about one case in more than 1.5 million doses used.

Common questions about the polio vaccine

How soon after their polio vaccine can I take my baby swimming?

You can take your baby swimming at any time, both before and after they have their polio vaccine. There is no risk of children catching, or passing on, polio in swimming pools.

MenC vaccine

Your baby should be immunised with the MenC vaccine at two, three and four months old.

This vaccine protects against infection by meningococcal group C. Meningococcal group C is a type of bacteria that can cause meningitis and septicaemia (blood poisoning). The MenC vaccine does not protect against meningitis caused by other bacteria or by viruses.

What is meningitis?

Meningitis is an inflammation of the lining of the brain. The same germs that cause meningitis may cause septicaemia (blood poisoning). Babies and young people aged 15 to 17 are most at risk of getting meningitis or septicaemia from meningococcal group C.

How effective is the MenC vaccine?

The MenC vaccine was introduced in Autumn 1999. In the year before the vaccine was introduced, there were 1530 cases of meningitis and septicaemia from meningococcal group C, and around 150 people died. Since the MenC vaccine was introduced, there has been a 90% drop in the number of babies under one year old who get ill with this type of meningitis or septicaemia.

Both meningitis and septicaemia are very serious in babies and young children. It is important that you know the signs and symptoms and what to do if you see them. Turn the page to find out more.

After immunisation

Your baby may have some redness and swelling where they had the injection. About half of all babies who have the vaccine may become irritable, and around one in 20 may get a mild fever.

Watch out for meningitis and septicaemia

It is important to know the signs and symptoms of meningitis. Early symptoms such as fever, being irritable and restless, vomiting and refusing feeds are also common with colds and flu. A baby with meningitis or septicaemia can become seriously ill within hours.

In babies, look out for one or more of these symptoms.

- A high-pitched, moaning cry.
- Refusing feeds.
- Being difficult to wake.
- Pale or blotchy skin.
- Red or purple spots that do not fade under pressure.

Do the glass test.

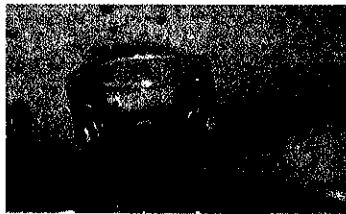
In older children look out for the following symptoms.

- Stiffness in the neck.
- Drowsiness or confusion.
- A severe headache.
- A dislike of bright light.
- Red or purple spots that do not fade under pressure.

Do the glass test.

The glass test

This test is very simple. Press the side of a clear glass firmly against the rash and see if the rash fades and loses its colour. If it doesn't, contact your doctor immediately.



If your child develops one or more of the above signs or symptoms, get medical help urgently. If you can't get in touch with your doctor, or are still worried after getting advice, trust your instincts and take your child to the nearest accident and emergency department.

MMR vaccine

Your baby should have their first dose of MMR vaccine at around 13 months old and a second dose before they start school.

MMR protects your child against **M**easles, **M**umps and **R**ubella (German measles).

What is measles?

Measles is caused by a very infectious virus. It is often a mild disease but if there are complications, it can be dangerous. It causes a high fever and a rash and can go on to cause chest infections, fits and brain damage. About one in every 15 children who develop measles is at risk of complications. In serious cases, it can kill. We cannot tell which children may be seriously affected by measles.

What is mumps?

The mumps virus causes headache, fever and painful and swollen glands in the face, neck or under the jaw. It can cause permanent deafness. It can also cause viral meningitis and encephalitis (inflammation of the brain). Very rarely, it causes painful swelling of the testicles in boys and the ovaries in girls.

What is rubella?

Rubella (German measles) usually causes a mild rash, swollen glands and a sore throat in children, but it is very serious for unborn babies. If a pregnant woman catches it early in her pregnancy, it can seriously harm her unborn baby's sight, hearing, brain, liver, lungs and bone marrow. This condition is called congenital rubella syndrome (CRS). In many cases, pregnant women catch rubella from their own, or their friends', children.



After the vaccine

The three separate vaccines in the MMR immunisation may have different side effects at different times.

- Six to ten days after their MMR vaccine, some children may become feverish, develop a measles-like rash and go off their food as the measles part of the vaccine starts to work.
- In the six weeks after the vaccine, your child may (very rarely) get a rash of small bruise-like spots. If you see spots like these, show them to your doctor.
- Very rarely, children may get a mild form of mumps about three weeks after their immunisation. They will not be infectious and they can mix with other people as normal.
- About one child in every 1000 who have the immunisation may have a fit which is usually caused by a fever and is called a 'febrile convulsion'. But if a child has not been immunised and they get measles, they are 10 times more likely to have a fit.

Although encephalitis (inflammation of the brain) has been reported (one case in a million doses), the risk of children getting encephalitis after MMR vaccine is no higher than the risk of getting it if they have not had the vaccine. However, the risk of a child developing encephalitis as a result of having measles is more common – about one in every 5000 cases.

Egg allergies

The MMR vaccine is made using eggs. If your child has a **severe** allergy to eggs (rashes on the face and body, a swollen mouth and throat, breathing problems and shock), tell your doctor or practice nurse. They can make special arrangements to give your child the vaccine safely.



Common questions about MMR vaccine

Do children really need protection against measles, mumps and rubella? I didn't think they were serious illnesses.

They are not always serious. In some children the illness may come and go almost unnoticed, but others can get very ill. The dangerous thing about these illnesses is that they can cause complications.

In 1987 (the year before MMR was introduced in England), 86,000 children caught measles, and 16 died. Now there are fewer than 100 cases of measles a year. But the number of babies in England who are taken for their MMR vaccination has dropped to a level where there could be epidemics of these diseases again.

Before MMR was introduced, mumps was the most common cause of viral meningitis in children under 15. It led to 1200 people going into hospital each year. Now there are almost no cases of mumps meningitis. But if children aren't immunised with the MMR vaccine, they are still at risk of getting mumps.

In the five years before MMR was introduced, there were around 43 cases of congenital rubella syndrome each year. In the last four years, there have been an average of fewer than two cases every year. All but one of these cases were caught abroad. The other case was linked to an outbreak of rubella which was begun in this country after someone caught the disease abroad.

It is important that all children (boys and girls) are protected against rubella to prevent the number of cases increasing.

I read about the MMR vaccine in the news a while ago – some people are saying that it could cause autism and bowel disease.

How do I know that MMR is truly safe?

There have been stories in the press suggesting a link between the MMR vaccine and autism or bowel disease. But extensive scientific research from all over the world agrees that there is no link between MMR and autism or bowel disease. MMR has been used in over 90 countries and it has an excellent safety record. If you would like more detailed information, ask your health visitor or doctor for a copy of the leaflet *MMR – The facts*.

Wouldn't it be better for my child to have MMR as separate vaccines?

No. The World Health Organisation advises against giving separate vaccines. No country in the world recommends it. Giving the vaccines separately would leave children at risk of catching measles, mumps or rubella for longer, and has no benefit over MMR.



Your child will need other immunisations as they grow older. In the following pages you will find information on other important immunisations that your child may receive.

BCG vaccine

The BCG vaccine protects against TB (tuberculosis). The vaccine is given to babies from the following high-risk groups shortly after they are born.

- Babies with one or both parents who come from countries with a high rate of TB (for example, India and countries in Africa and the Far East).
- Babies who will be staying for more than a month in a country with a high rate of TB.
- Babies who could be in close contact with someone who has TB or has had TB in the past.

The BCG vaccine is routinely given to children between 10 and 14 years old.

What is TB?

TB is an infection that usually affects the lungs. It can also affect other parts of the body such as the brain and bones. With treatment, it is possible to make a full recovery.

Worldwide, TB kills around two million people every year. Although TB is no longer common in the UK, since the mid-1980s the number of cases each year has risen to around 7,000.

After immunisation

A blister or sore will appear where the injection is given. This is quite normal. It gradually heals, especially if you do not cover it up. It may leave a small scar.

The hepatitis B vaccine

This vaccine is given to babies whose mothers or close family have been infected with hepatitis B.

- The first dose is given within two days of birth.
- A second dose is given at one month old.
- A third dose is given at two months old.
- A booster dose and blood test are given at 12 months old.

What is hepatitis?

There are several different types of the hepatitis virus. The hepatitis B virus is passed through infected blood and may also be passed on during sex with an infected partner. It can cause the liver to become inflamed.

If you are pregnant and you are a hepatitis B carrier, or if you get the disease during your pregnancy, you could pass it on to your child. Your child may not be ill but they have a high chance of becoming a carrier and developing liver disease later in life. Some people carry the virus in their blood without knowing it.

Pregnant women in the UK are tested for hepatitis B during their antenatal care. If you have the virus, you should have your baby vaccinated. It is safe to breastfeed your baby as long as they have been vaccinated.

After immunisation

The side effects of the vaccine tend to be quite mild. The place where your baby had the injection may sometimes be red and it may be a bit sore for a few days afterwards.

Your child may need extra immunisations if they are going abroad. Contact your doctor or a travel clinic for up-to-date information on the immunisations your child may need.

Watch out for malaria

Malaria is a serious infection which 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. There isn't an immunisation against malaria, but your doctor may be able to give them some anti-malarial drugs.

Avoiding the bug bites

Do all you can to avoid your child getting bitten by mosquitoes.

- Use insect repellent and mosquito nets soaked in repellent.
- Make sure their arms and legs are covered between sunset and sunrise.

Use a repellent that is specially made for children. Ask your pharmacist for advice.

You can get **Health advice for travellers**, an information leaflet produced by the Department of Health, from the post office or you can ring the **Health Literature Line** free on **0800 555 777** between 8am and 6pm and ask for **leaflet T6**. (This contains form **E111**).