

Immunisation for babies

up to a year old



immunisation

the safest way to protect your child

Includes information about the new meningitis B vaccination - make sure you have infant paracetamol at home before your baby's two month vaccine appointment.

Introduction

This guide is for parents with babies up to a year old. It provides information on the routine immunisations that are given to babies to protect them from serious childhood diseases. It also describes these diseases and explains why children need protection against them.

The immunisation programme is regularly reviewed to ensure that children are being offered the most effective protection against preventable diseases. This leaflet includes the recent changes to the immunisation programme. These are the introduction of a vaccine against Meningococcal B (MenB vaccine) and the importance of giving paracetamol after each of the first two doses of MenB vaccine. **You need to make sure you have infant paracetamol in the house before taking your baby for his/her first vaccines.** (See pages 15–17)



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

**World Health
Organization**

What is immunisation?

Immunisation is the best and safest way to help stop your baby becoming sick from various infectious diseases. Babies are given vaccines, which stimulate the body to produce antibodies. Antibodies are the body's natural defence system to fight infectious diseases. Immunisation helps to keep the body ready to fight the infection if the child comes into contact with the disease.

Why do we need immunisation?

Around the world, millions of people die from infectious diseases every year. Most of these diseases have become very rare in Northern Ireland and you may have heard very little about them. They have become rare because we have such high uptake levels for vaccinations and the vaccinations have been very good at getting rid of the diseases. However, they are still common in other parts of the world and, with increased travel to foreign countries, could be brought back to Northern Ireland and affect any children who haven't been vaccinated.

It is important we don't forget how serious these diseases can be. Young babies are most vulnerable to these infections, which is why they need to be protected as early as possible. It takes a number of vaccines to fully protect your baby, so it's important to complete the course. If your baby misses any of these vaccines, they can still catch up on most of them, even if there's been a long gap. Just ask your GP or health visitor to arrange to give them the dose they missed. They don't have to start the course again from the beginning.

Some diseases are more likely to be serious in older children – so it's important to make sure they are given booster vaccinations.

If you have any questions about immunisation, speak to your GP, practice nurse or health visitor.

You can also visit www.publichealth.hscni.net or www.nhs.uk/vaccinations

The vaccines for babies

DTaP/IPV/Hib vaccine

This vaccine protects against diphtheria (D), tetanus (T), pertussis (P; whooping cough), polio (Inactivated Polio Vaccine - IPV) and Haemophilus influenzae type b (Hib). The polio part is now given in the same injection rather than by mouth.

Your baby should have the DTaP/IPV/Hib vaccine at two, three and four months of age.

Your child will be given a Hib booster (combined with MenC) just after their first birthday and a booster against diphtheria, tetanus, pertussis and polio before they start school. They will get a further tetanus, diphtheria and polio booster between the ages of 14 and 18.

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. However, the booster doses outlined above are needed to extend this protection as your child grows up.

What diseases will the DTaP/IPV/Hib vaccine prevent?

Diphtheria

Diphtheria is a serious disease that 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, there were up to 1,500 cases of diphtheria each year in Northern Ireland.

Tetanus

Tetanus is a painful disease that affects the muscles and can cause breathing problems. It affects the nervous system and can kill.

Tetanus is caused when germs that are found in soil and manure get into the body through open cuts or burns. It cannot be passed from person to person but is always present in the soil, even in this country.



Pertussis (whooping cough)

Whooping cough is a disease that can cause long bouts of coughing and choking that can make it hard to breathe. It can last for up to 10 weeks. It can be very serious for young children and can even kill babies under one year old. Before the pertussis vaccine was introduced, up to 3,500 cases of pertussis were reported each year in Northern Ireland.

Polio

Polio is a virus that attacks the nervous system and can permanently paralyse the muscles. If it affects the chest muscles or the brain, polio can kill. Before the polio vaccine was introduced, as many as 1,500 cases of paralytic polio occurred each year in Northern Ireland.

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 baby against one type of meningitis (Hib). It does not protect against any other type of meningitis.

Side effects of the DTaP/IPV/Hib vaccine

Most babies will not have any side effects, but all babies are different. Your baby may get some of the following side effects, which are usually mild:

- irritability up to 48 hours after having the injection;
- a mild fever (see preventing a high temperature after vaccination on page 17);
- a small lump at the site of the injection. This could last for a few weeks and 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. This can be done online by visiting www.yellowcard.gov.uk or by calling the Yellow Card hotline on freephone 0808 100 3352 (available Monday to Friday 10.00am to 2.00pm).



Allergic reactions

Very rarely, a vaccine may cause an allergic reaction, such as a rash or itching affecting some or all of the body. Even more rarely, children may have a severe reaction within a few minutes of the immunisation, causing difficulty breathing and possibly collapse. This is called anaphylaxis. A recent study has shown that one case of anaphylaxis is reported in about half a million immunisations given. Although allergic reactions can be worrying, treatment leads to a rapid and full recovery.

Fits

Very rarely, babies may have a fit a day or two after their DTaP/IPV/Hib vaccination. This is usually related to a very high temperature (see page 15). If your baby has a fit, call your GP 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. If you delay the immunisation, it can increase the chance of your baby having a fit after DTaP/IPV/Hib because fits due to a high temperature are less common in the first six months of life. So it's important to make sure your baby gets vaccinated at the right age.



Pneumococcal vaccine (PCV)

This vaccine provides protection against one of the most common causes of meningitis, and also against other conditions such as severe ear infections (otitis media) and pneumonia caused by the most common types of pneumococcal bacteria. Meningitis, ear infections and pneumonia can also be caused by other less common types of pneumococcal bacteria and by other bacteria and viruses. This vaccine will not protect against these other infections.

Your baby should have the PCV immunisation at two and four months and just after their first birthday.

What is pneumococcal infection?

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

Side effects of 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.

Very rarely, a vaccine may cause an allergic reaction (see page 6).



Rotavirus vaccine

This vaccine protects against rotavirus, a common but potentially serious infection of the lower gut.

Your baby should have the rotavirus vaccine at two and three months of age.

What is rotavirus?

Rotavirus is a common cause of vomiting and diarrhoea among young babies. It can be serious if the baby becomes dehydrated and may require hospital treatment. Most babies will get rotavirus before the age of five. About 1 in 5 babies will need medical attention and about 400 will end up in hospital in Northern Ireland every year.

How is rotavirus spread?

Rotavirus spreads very easily through direct contact with surfaces such as toys, hands or dirty nappies. It can also spread through the air by sneezing and coughing. Hand washing and keeping surfaces clean can help reduce the spread of the virus to some extent but will never completely stop the spread.

How effective is the rotavirus vaccine?

Evidence shows that the best way to prevent babies catching rotavirus is to give them the vaccine. That is why the rotavirus vaccine has been introduced as part of the routine childhood immunisation schedule (from July 2013). However, there are other causes of vomiting and diarrhoea that the vaccine doesn't protect against.

When will my baby have the vaccine?

Your baby will be given the vaccine at two months of age and again at three months with his or her other vaccines.

Your baby cannot start a course of the vaccine if he or she is over 15 weeks old or get the second dose after 24 weeks of age.



Why can't older babies have the vaccine?

As they get older, some babies – about one in a thousand – get a condition that causes a blockage in their lower gut. It is extremely rare before three months of age and most cases occur between five months and a year. However, there is a very small chance (around two in every hundred thousand babies vaccinated) that the first dose of the vaccine might also cause this blockage to develop. To reduce the risk of this happening, the first dose of the vaccine will not be given to babies older than 15 weeks of age.

How is the vaccine given?

The rotavirus vaccine is given as a small amount of liquid in an oral syringe to make it easy for your baby to swallow.

What if my baby spits out the vaccine or vomits immediately after having it?

The vaccine will be given again if your baby vomits or spits out the vaccine.

Will the vaccine stop babies getting any sickness and diarrhoea?

No. Rotavirus isn't the only cause of sickness and diarrhoea in babies, so some may still get unwell. However, the vaccine will stop about eight out of ten babies getting vomiting and diarrhoea caused by rotavirus. And the more babies that have the vaccine, the more difficult it will be for the virus to spread.

Side effects of the vaccine

The vaccine has been used extensively in other countries and has a good safety record. Occasionally, babies who have had the vaccine may be restless, tetchy or develop mild diarrhoea.

In very rare cases (about two in every hundred thousand babies vaccinated), the vaccine can affect the baby's lower gut and they may develop abdominal swelling, vomiting, and pull their knees up to their chests as if in pain – sometimes they may pass blood. If this happens, you should contact your doctor immediately.

It is important to remember that the risks from the disease are much worse than the rare side effects of the vaccine.

Will my baby get rotavirus from the vaccine?

No. The virus in the vaccine is weakened so it doesn't cause the full disease. The vaccine helps your baby build up immunity, so the next time he or she comes into contact with the virus they will not get the disease.

It is possible that the virus in the vaccine could pass from the baby to close contacts through soiled nappies for at least 14 days. However, vaccination of the baby will offer protection from rotavirus disease to those contacts, even those whose immune systems are weakened because of a medical condition or treatment, and outweighs any potential risk.

All those in close contact with recently vaccinated infants should observe good personal hygiene (eg washing their hands after changing the baby's nappy).



Meningococcal disease

Meningococcal bacteria cause two very serious types of infection: **meningitis** (inflammation of the lining of the brain) and **septicaemia** (blood poisoning). There are several different strains of meningococcal bacteria, the most common one in this country is MenB. Your baby will be offered MenB vaccine at two and four months old and again after the first birthday.

We have had a very effective vaccine against MenC for several years with good uptake in toddlers and young adults and it has virtually got rid of MenC infection, so it is no longer necessary to give MenC vaccine to babies. Your child will receive MenC vaccine just after his or her first birthday (combined with Hib). It is thought the new MenB vaccine may also give some protection against MenC disease.

What is meningitis?

Meningitis is inflammation of the lining of the brain. This causes pressure on the brain. Meningitis can progress very rapidly, causing severe symptoms and can even lead to death.

What is septicaemia?

Septicemia (blood poisoning) is a serious, life-threatening infection that gets worse very quickly and the risk of death is higher compared with meningitis.

For more details of what to look out for with meningitis and septicaemia see page 18.

Can meningitis and septicaemia be treated?

Yes, they can, but these diseases come on very rapidly and even with treatment some children end up with permanent damage and a few die.

Can they be prevented?

Yes, we have been preventing MenC infection very successfully for about 15 years. We now have a new vaccine that will help prevent MenB infections.

MenB vaccine

This vaccine protects against MenB disease, the most common type of meningococcal disease. In recent years there have been 50 to 100 cases of meningococcal infection per year in Northern Ireland, most of which have been due to MenB. Babies and young children are the most commonly affected.

Your baby should have the MenB vaccine at two, four and 12 months of age.

Does the MenB vaccine have any side effects?

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, or
- have a temperature (fever).

Fever is quite a common reaction after the MenB vaccine. It is not something to be concerned about. You can help to prevent it by giving your baby paracetamol after the MenB vaccines at 2 and 4 months of age. See page 14–17 for more details about how to do this. **It is important to make sure you have some infant paracetamol available before taking your baby for his/her first vaccine.**

Are there any babies who shouldn't have the vaccine?

The vaccine should not be given to babies who have had:

- a confirmed anaphylactic reaction to a previous dose of the vaccine (see page 6), or
- a confirmed anaphylactic reaction to any of the ingredients of the vaccine.

How effective is the MenB vaccine?

There are lots of different strains of MenB infection, the vaccine protects against most (about three quarters) but not all the strains. It therefore greatly reduces your baby's chance of getting the infection, but there is still a very small chance they could get it, so it is important to still know what signs and symptoms to look out for – see page 18.



Common questions about immunisation

How soon after vaccination can I take my baby swimming?

You can take your baby swimming at any time, both before and after they have their vaccinations. Contrary to popular belief, your baby does not need any immunisations before they go swimming.

Are there any other ways to immunise my baby?

There is no other proven, effective way to immunise your baby. Homeopathic medicine has been tried as another way to protect against whooping cough, but it doesn'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.

Won't giving my baby several vaccines at the same time overload his/her 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 through life.

In theory, a baby could respond effectively to around 10,000 vaccines at any one time. So the baby's immune system can and does easily cope with the number of vaccines given in the routine immunisation schedule.

I have heard there is thiomersal (mercury) in vaccines, is this true?

Thiomersal is no longer used in vaccines in the routine childhood immunisation programme. A minuscule amount of mercury was used for over 60 years to help preserve vaccines. In all this time, there was never any evidence that it did any harm. However, its use has now been phased out as part of the global goal to reduce exposure to mercury from avoidable sources.

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.



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

There are very few reasons why babies should not be immunised. You should let your health visitor, GP or practice nurse know if your baby:

- has a very high temperature or fever, vomiting or diarrhoea on the day of the appointment;
- has had a bad reaction to any immunisation;
- has a severe allergy to anything;
- has a bleeding disorder;
- has had convulsions or fits;
- has had treatment for cancer;
- has any illness that affects the immune system (eg leukaemia, HIV or AIDS);
- is taking any medicine that affects the immune system (eg high dose steroids or treatments given after organ transplant or for cancers);
- has any other serious illness.

These don't always mean that your baby can't be immunised, but it helps the doctor or nurse decide which are the best immunisations for your baby and if they need to give you any other advice. A family history of illness is never a reason for a baby not to be immunised.

How can I prevent a high temperature after a MenB vaccination?

Some babies may get a raised temperature or fever (over 37.5°C) after having their vaccinations. This is more common after the MenB vaccine. To help prevent this it is recommended that babies are given three doses of infant paracetamol after their MenB vaccines at 2 and 4 months of age. Giving paracetamol will reduce the risk of fever, irritability and general discomfort (including pain at the site of the injection) after the MenB vaccination. **It is important to make sure you have some infant paracetamol at home before your baby has his/her first vaccine.** If your baby has a fever after the three month vaccination, you may also give them paracetamol.

Where can I get infant paracetamol from?

Paracetamol liquid is very widely available from chemists and supermarkets. You can buy an own brand (usually cheaper) or a brand such as Calpol®. It doesn't matter which brand you choose to give but it is important you make sure you get the right strength for your baby.

When should I give the paracetamol to my baby?

You should give the first dose as soon as you get home, or as soon after the MenB vaccination as possible. Then give the second dose four to six hours after the first one, and the third dose four to six hours after the second. Don't give the first dose before your vaccine visit, because your nurse will first need to check that your child doesn't have signs of an existing infection, which can sometimes be a reason to delay your vaccines.

How much should I give?

Each dose is 2.5ml. The bottle you buy should have either a syringe or spoon for measuring the dose correctly (see below).

Dosage and timing of infant paracetamol suspension (120mg/5ml) for use after vaccination at two and four months

Age of baby	Dose 1	Dose 2	Dose 3
2 months/ 4 months	One 2.5ml by syringe or spoonful (small end) as soon as possible after vaccination	One 2.5ml by syringe or spoonful (small end) 4–6 hours after first dose	One 2.5ml by syringe or spoonful (small end) 4–6 hours after second dose

It's important that your baby has the recommended three doses of paracetamol after each of the first two MenB vaccinations to reduce the chances of fever.

If your baby spits out more than half the paracetamol within a few minutes of getting it, then you can give the same amount of paracetamol again straight away.

Is it safe to give paracetamol to such a young baby?

Yes, paracetamol can safely be given to two month old babies. You may find the information on the bottle of paracetamol says that no more than two doses should be given to children aged two to three months without talking to a doctor or pharmacist. Recently, however, experts* have advised that, after the vaccines given at two months of age it is safe to give paracetamol for up to 48 hours (leaving at least four hours between doses and without giving more than four doses each day). This is because it is much more likely that any mild fever within this time after the vaccines was caused by the vaccine rather than an infection and the paracetamol will make your child feel better. The advice on the paracetamol patient information is expected to be changed in due course.

*Expert advice from Joint Committee for Vaccinations and Immunisations and the Committee for Human Medicines.

What if my baby still has a fever after having had the three doses of paracetamol?

Some babies may still develop fever after vaccination, even after taking paracetamol. If your baby still has a fever after the first three doses of paracetamol but is otherwise well, you can continue giving paracetamol for up to 48 hours after the vaccination. You should always leave at least four hours between doses and never give more than four doses in a day. You should also keep your child cool by making sure they don't have too many layers of clothes or blankets on, and giving them plenty of fluids.

If you are concerned about your baby at any time then trust your instincts and speak to your GP.

If 48 hours after vaccination your baby still has a fever, or you are worried they are unwell, you should speak to your GP for advice.

Recognising and treating fever.

If your baby'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 (a fever is over 37.5°C).

Fevers are fairly common in babies and children. They often get these with infections. Occasionally a fever can cause a baby to have a fit. Any fever can cause this, whether the fever is due to an infection or a vaccine. So it's important to know what to do if your baby has a fever. Remember, fevers are more likely to be caused



by the diseases than they are by the vaccines.

How to treat a fever

1. Keep your baby cool by making sure:

- they don't have too many layers of clothes or blankets on;
- the room they are in isn't too hot (it shouldn't be cold either, just pleasantly cool - about 16–20°C).

2. Give them plenty of fluids.

3. Give them infant paracetamol (ask for sugar-free). When your baby has had the MenB vaccine as part of the two and four month vaccination, it is recommended that you give your baby three doses of paracetamol even if they have not developed a fever, at 4 to 6 hourly intervals (see pages 14–17). If your baby has a fever after the three month vaccination, you may also give them paracetamol.

Remember, never give medicines containing aspirin to children under 16 years of age.

Call the doctor immediately if your child:

- has a very high temperature (39°C or above);
- has a fit.

If your child has a fit, lie them on their side in a safe place because their body may twitch or jerk.

Recognising meningitis and septicaemia

The MenB vaccine, the Hib vaccine and the pneumococcal vaccine protect against different types of meningitis and septicaemia (blood poisoning). There are other types for which there are no vaccines so it is important to still watch out for the signs and symptoms.

Meningitis can cause swelling of the lining of the brain. The same germs may also cause blood poisoning (septicaemia). A baby or child with meningitis or septicaemia can become very ill within hours. If untreated, both diseases may be fatal. Early symptoms of meningitis are mild and similar to those you get with colds and flu, such as a raised temperature (37.5°C and above), fretfulness, vomiting and refusal to eat. However, some of the important signs to look out for are listed below.

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

- a high-pitched, moaning cry
- being irritable when picked up
- a bulging fontanelle (soft spot on head)
- being drowsy and less responsive
 - difficult to wake
- being floppy and listless or stiff with jerky movements
- refusing feeds, vomiting
- skin that is pale, blotchy or turning blue
- convulsions or seizures
- fever



and 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, refusing to feed
- red or purple spots that do not fade under pressure (do the glass test explained below)
- pain or irritability from muscle aches or severe limb or joint pain
- floppiness
- severe sleepiness

If a glass tumbler is pressed firmly against a septicaemic rash, the rash will not fade. You will be able to see the rash through the glass. If this happens, get a doctor's help immediately.



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 are still worried after getting advice, trust your instincts and take your child to the emergency department of your nearest hospital.

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 (this alone is not a reason to get medical help)
- a dislike of bright lights
- vomiting
- fever
- being drowsy, less responsive or confused
- a rash
- convulsions or seizures

and the main symptoms of **septicaemia** may include:

- being sleepy, less responsive, vacant 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 19)
- vomiting
- fever
- diarrhoea and stomach cramps

Where can I get more information?

The Meningitis Research Foundation and Meningitis Now both provide information on meningitis.

Phone Meningitis Now's free 24-hour helpline on 0808 80 10 388 or visit the website at www.meningitisnow.org

Phone the Meningitis Research Foundation's free 24-hour helpline on 080 8800 3344 or visit the website at www.meningitis.org

You can also ask your doctor, practice nurse or health visitor for advice.



Vaccines given to babies between 12 and 13 months

Information on the following vaccines is given in the leaflet *Immunisations for babies just after their first birthday*. You will be sent this leaflet shortly before your child is due to get the vaccines or look on the website www.publichealth.hscni.net or don't hesitate to ask your health visitor.

MMR vaccine

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

Your baby should have the MMR immunisation just after their first birthday.

Your child will receive a second dose of MMR before they start school.

Pneumococcal vaccine

This vaccine has already been described on page 7, and your child requires three doses.

Your child will receive a final dose of the pneumococcal vaccine just after their first birthday.

Immunisation

for babies just after
their first birthday



immunisation
the safest way to protect your child

Hib/MenC vaccine

Your child will need a dose of the combined Hib/MenC vaccine to provide protection against meningococcal C infections and boost their protection against Haemophilus influenzae type b (Hib). This dose provides longer-term protection throughout childhood against two causes of meningitis and septicaemia.

Your child should have the booster dose of Hib/MenC vaccine just after their first birthday.

MenB vaccine

This vaccine has already been described on page 12, and your child requires three doses.

Your child will receive a final dose of the MenB vaccine just after their first birthday.



Routine childhood immunisation programme

When to immunise	Diseases vaccine protects against	How it is given
2 months old	Diphtheria, tetanus, pertussis (whooping cough), polio and Hib Pneumococcal infection Rotavirus Meningococcal B infection	One injection One injection Orally One injection
3 months old	Diphtheria, tetanus, pertussis, polio and Hib Rotavirus	One injection Orally
4 months old	Diphtheria, tetanus, pertussis, polio and Hib Pneumococcal infection Meningococcal B infection	One injection One injection One injection
Just after the first birthday	Measles, mumps and rubella Pneumococcal infection Hib and meningococcal C infection Meningococcal B infection	One injection One injection One injection One injection
Every year from 2 years old up to P7	Influenza	Nasal spray or injection
3 years and 4 months old	Diphtheria, tetanus, pertussis and polio Measles, mumps and rubella	One injection One injection
Girls 12 to 13 years old	Cervical cancer caused by human papillomavirus types 16 and 18 and genital warts caused by types 6 and 11	Two or three injections over six months
14 to 18 years old	Tetanus, diphtheria and polio Meningococcal ACWY	One injection One injection

If your child has missed out on any of these vaccines, talk to your GP or health visitor.

If you would like further information about immunisation, visit
www.publichealth.hscni.net or
www.nhs.uk/vaccinations

Adapted from text published by Public Health England and reproduced with permission.



Public Health Agency

12-22 Linenhall Street, Belfast BT2 8BS.
 Tel: 0300 555 0114 (local rate).
www.publichealth.hscni.net

Find us on:

