Measles Mumps and Rubella (MMR)

This leaflet tells you about the MMR vaccine and measles, mumps and rubella (German measles) infections.
What does MMR vaccine protect against?

Measles

Measles is caused by a very infectious virus. Nearly everyone who catches it will have a high fever and a rash, and will be very unwell. Children often have to spend about five days in bed and could be off school for over a week. 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 people who catch it, and include chest infections, fits, encephalitis (swelling of the brain) and brain damage. In very serious cases, measles can kill. In Wales in a measles outbreak in 2013 over 1,200 measles cases were reported and 88 people needed hospital treatment.

Measles is one of the most infectious diseases known. The measles virus is spread when an infected person coughs or sneezes. Because it is so infectious, it is very likely that you will get measles at some age if you are not protected by the vaccine.
Mumps

Mumps is a disease caused by a virus. It can cause fever, headache and painful, swollen glands in the face, neck and jaw. It can result in permanent deafness, viral meningitis (infection of the covering of the brain) and encephalitis (swelling of the brain). It can also cause painful swelling of the testicles in males and the ovaries in females. Mumps lasts for about 7 to 10 days. Before the MMR vaccine was introduced, about 1,200 people a year in the UK were admitted to hospital because of mumps.

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

Rubella

Rubella (German measles) is a disease caused by a virus. In children it is usually mild and can go unnoticed. It may cause a brief rash, swollen glands and a sore throat. Rubella is, however, very serious for unborn babies. It can seriously damage their sight, hearing, heart and brain. This condition is called congenital rubella syndrome (CRS). If the mother gets rubella infection in the first three months of pregnancy it causes damage to the unborn baby in nine out of ten cases. In the five years before the MMR vaccine was introduced, about 43 babies a year were born in the UK with congenital rubella syndrome.

Rubella is spread in the same way as measles and mumps. It is about as infectious as flu.
When is MMR vaccine offered?
The first dose of MMR vaccine is offered between 12 and 13 months of age. By that age the immunity a baby had from their mother will have faded. This is the first of a two dose course. The second dose is given at 3 years and 4 months of age before children start school.

How will I know when the immunisations are due?
Children are sent an appointment to attend for their routine MMR vaccine at the appropriate age. Most surgeries and health centres run special immunisation or baby clinics.

Contact your doctor or nurse to discuss catch-up MMR vaccination if your child is in school and is not fully immunised with two doses of MMR vaccine. If you are older and have missed MMR you can ask to be vaccinated at your local GP practice.

What happens at the appointment?
The doctor or nurse will explain about the immunisations and answer any questions. Injections are usually given into the upper arm over the age of 12 months.
Can the vaccine be given if unwell on the day of the appointment?

If an individual has a minor illness without a fever, such as a cold, they should have their immunisations as normal. If an individual is ill with a fever on the day the immunisation is due, delay the immunisations until recovered.

Can the vaccine be given to someone with allergies?

Yes. Asthma, eczema, food intolerances and egg allergies do not prevent someone from having the MMR vaccine.

Are there any other reasons why the vaccine should not be given?

There are very few reasons why MMR vaccine cannot be given. The vaccine should not be given to anyone who has had a severe (life threatening) reaction to a previous dose of the vaccine or any ingredient in the vaccine.

MMR vaccine contains weakened versions of live measles, mumps and rubella viruses. Individuals who have a weakened immune system (are ‘immunosuppressed’) should not, in general, receive live vaccines.
Individuals who are immunosuppressed include those:

- whose immune system does not work properly because they have recently completed or 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. (These are very rare diseases that mean you are more likely to catch infections than is normal. They are usually diagnosed shortly after birth).

If this applies to you or your child, you must tell your doctor or nurse.

**What if I miss the appointment?**

You should cancel an appointment in advance if you can’t make it. If you do miss the appointment or have to delay the immunisation make a new appointment to ensure protection against the diseases as soon as possible.

**What if the vaccine is given before 12 months of age?**

In certain circumstances the vaccine may be offered to children under the age of 12 months of age for reasons such as travel to areas where measles is circulating or during an outbreak. Any MMR vaccine given before the age of 12 months of age does not count as part of the routine childhood schedule and your child should still receive two further doses.
Why are two doses of MMR vaccine needed?

A second dose of MMR vaccine is needed to get high levels of protection against the three diseases.

*If you or your child has missed any MMR immunisation, it’s important to catch up. Talk to your doctor or nurse.*

Does the vaccine have any side effects?

Millions of doses of the vaccine have been used and it has a very good safety record. Individuals can sometimes get a sore arm where the injection was given. Some may develop a small lump where the needle was put in and the area around it might also be slightly hot and red. This is normal and may last some weeks. It does not need any treatment.

The vaccine contains weakened types of live measles, mumps and rubella viruses. Because the viruses are weakened, people who have had the vaccine cannot catch the diseases from the vaccines or infect other people. The three different viruses in the vaccine act at different times and may produce the following side effects after the first dose, they are usually mild.
• Around 6–10 days after the immunisation, as the measles part of the vaccine starts to work, about one in ten individuals may develop a fever and some develop a measles-like rash and a loss of appetite.

• About one in every 1000 immunised children may have a fit caused by a fever. This is called a ‘febrile convolution’. However, if a child who has not been immunised gets measles, they are five times more likely to have a fit.

• Rarely, individuals 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, individuals 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 this occurs get advice from your doctor.
Fewer than one 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 an individual catches measles, the chance of developing encephalitis is between one in 200 and one in 5000.

If you or your child has a raised temperature and appears unwell they can be given paracetamol liquid. Read the instructions on the bottle carefully and give your child the correct strength and dose for their age. Reactions after the second dose are even less common and usually milder.

Members of the public can report suspected side effects of vaccines and medicines through the Yellow Card scheme. This can be done by visiting www.yellowcard.gov.uk or by calling the Yellow Card hotline on 0808 100 3352 (available Monday to Friday, 10:00–14:00).

**Is gelatine used in MMR vaccine?**

Gelatine is a substance used in a wide variety of foods and medicines including some capsules and vaccines. In the UK we currently use two MMR vaccines called MMRVAXPRO® and Priorix®. MMRVAXPRO® contains porcine gelatine. Priorix® does not contain gelatine.
Where can I get more information?

You can find out more about the vaccine, including vaccine contents and potential side effects, at www.medicines.org.uk/emc/ by entering the name of the vaccine in the search box and looking at the patient information leaflet (PIL).

The routine immunisation schedule that shows you which immunisations are offered in Wales is available from www.publichealthwales.org/routine-immunisation-schedule-wales

If you have any questions or want more information, talk to your doctor or nurse or call NHS Direct Wales on 0845 4647 or visit www.nhsdirect.wales.nhs.uk/

To order more copies of this leaflet, email: hplibrary@wales.nhs.uk or telephone 08456 064050.

This leaflet is produced by:

Public Health Division, Welsh Government and the Vaccine Preventable Disease Programme, Public Health Wales