Public Health England

NHS

MMR

MEASLES **MUMPS** **RUBELLA**

VACCINATION

This leaflet explains about measles, mumps and rubella and the MMR vaccination which helps protect against all three diseases.

immunisation

Helping to protect everyone, at every age

What is measles?

Measles is a very infectious viral illness that is spread by coughs and sneezes. If you are not protected and have even passing contact with someone who has measles, the chances are that you will be infected too. If you catch measles you will probably feel very poorly and be off school or work for around 10 days. There is no treatment or cure for measles.

Symptoms of measles include fever, sore red eyes, and rash. It can be a very serious infection for some people.

Complications are more likely to occur in certain groups including people with weakened immune systems, babies under one year old and pregnant women. Complications can include chest and ear infections, fits, diarrhoea, encephalitis (infection of the brain) and brain damage. Those who develop complications may need to be admitted to hospital for treatment.

Is it serious? Yes, around one in 5000 individuals with measles is likely to die and since 2006, there have been 3 deaths from measles in England and Wales.

What is mumps?

Mumps is a viral illness that is spread by coughs and sneezes or close contact with someone who already has the infection.

Symptoms of mumps usually last around two weeks and can include headache and fever but the most common symptom is swelling of the glands at the side of the face. This can give you the appearance of having a 'hamster face' and can cause pain and difficulty swallowing.

Complications of mumps can be very painful and can include inflammation of the ovaries or testicles, and in rarer cases, the pancreas. Mumps can also cause viral meningitis and encephalitis (infection of the brain). Although permanent hearing loss after mumps is rare, around one in 20 people infected may have temporary hearing loss.

There is currently no medication to cure mumps so treatment is focused on relieving symptoms. If you develop mumps you will probably need some bed rest and painkillers during this time. You may also need to eat soft foods that do not require a lot of chewing. Most cases of mumps now occur in young adults who haven't had two doses of MMR vaccine.

What is rubella?

Rubella is a viral illness, often called German measles, that is now rare in the UK thanks to the success of the MMR vaccine. It is spread in a similar way to mumps and measles. For most people, it is usually a mild condition that gets better in 7 to 10 days without treatment. However, if pregnant women develop rubella it can be very serious for their unborn baby.

Symptoms of rubella include a rash, cold-like symptoms, and aching joints.

Complications of rubella are rare but if a pregnant woman catches rubella during pregnancy, there can be devastating consequences for her unborn baby which could lead to the baby being born with cataracts (eye problems), deafness, heart problems or brain damage.

1 One vaccine

The MMR vaccine is a single injection that is administered into the thigh of young children or the upper arm of older children or adults. It is a live vaccine which means that it contains weakened versions of measles, mumps and rubella viruses. These have been weakened enough to produce immunity without causing disease.

2 Two doses

The MMR vaccine gives long lasting protection with just two doses of the vaccine. The first dose is given at the age of 12 months and the second dose is given at around three years and four months, before starting school. Having both doses gives long lasting protection against measles, mumps and rubella. In adults and older children the two doses can be given with a one month gap between them.

3 Three infections

The MMR vaccine protects against three infections; measles, mumps and rubella. These are viral infections that can quickly spread to unprotected children and adults – they spread more easily than flu or the common cold.

» Long-lasting protection

The MMR vaccine is the safest and most effective way to protect yourself against measles, mumps and rubella. Since the vaccine was introduced in 1988, these conditions have become rare in the UK. However, outbreaks of disease, especially measles, have occurred when the number of people having the vaccine has dropped. If you are unsure whether you have previously had the vaccine or not, you can check with your GP, having further doses will not cause any harm.

Who should have the vaccine?

Young children

Young children should be offered the vaccine as part of the UK national vaccination programme. They will be offered two doses of the vaccine, the first one just after the first birthday and the second dose before they start school – usually at around three years and four months of age.

Older children, teenagers and young adults

If you have never previously had MMR vaccine or have only had one dose of it, you should contact your GP surgery to arrange to catch up with your outstanding doses. If you have already had one dose of MMR vaccine as a young child then you will only need one further dose, no matter how long ago your first dose was given. If you need two doses then they can be given with a one month gap between them.

Women of child bearing age

Rubella can be a very serious infection for unborn babies, it can cause blindness, deafness and even death. If you are a woman of child bearing age, even if you are not planning to have a baby, you should have two doses of the MMR vaccine before you become pregnant. If you have not had two doses, or you are unsure, you should contact your GP surgery to arrange to catch up with any doses still outstanding. As it is a live vaccine, you should avoid getting pregnant for one month after the vaccine so you should also use a reliable method of contraception during this time.

If you are pregnant or have just had a baby and are not sure if you've had two doses of MMR, speak to your GP or practice nurse at your 6 week postnatal check.

Older adults

Adults born in the UK before 1970 are likely to have had measles, mumps and rubella as a child or to have had single measles or rubella vaccines which were used before MMR was introduced in 1988.

If you are unsure whether or not you have had these infections or the vaccines to protect against them, you can ask your GP to vaccinate you. You will need two doses, one month apart. Even if

you have had the vaccines before, you will not come to any harm from having extra doses as your immune system will recognize and quickly destroy the vaccine viruses.

Born or brought up abroad?

If you were born or brought up abroad you may need two doses of MMR. Different countries offer different immunisations and not all use the combined MMR vaccine. If you don't have a record of the vaccines you have received or are unsure, discuss this with your GP. You may also need other immunisations to fully protect you from other infections.

How does the MMR vaccine work?

The MMR vaccine is a live vaccine that protects against measles, mumps and rubella. Two doses are given by injection into the leg or upper arm. Your immune system responds to the vaccine by producing cells which recognize and remember each of the three viruses. If you are in contact with any of the diseases in the future, these cells will wake up and activate your body to rapidly produce antibodies. This protection is usually long lasting.

How safe is the vaccine?

The combined MMR vaccine has been safely protecting children for many years in many countries worldwide. In the UK, millions of doses have been given since it was introduced in 1988. Before vaccines can be used, they have to be thoroughly tested for safety. Although there may be some side effects from vaccination, they are usually mild and much less severe than the disease itself. Serious reactions following vaccination are rare.

Many studies have taken place to look at the safety and effectiveness of MMR vaccine. The evidence is clear that there is no link between MMR vaccine and autism.

Does it work?

Yes, the vaccine is very good at providing protection against measles, mumps and rubella.

Over 99% of those who have two doses of the vaccine will be protected against measles and rubella. Although mumps protection is slightly lower, cases in vaccinated people are much less severe.

MMR was introduced in the UK in 1988, and it is now rare for children to develop these infections. There have been outbreaks of measles and mumps in recent years. These tend to occur where levels of vaccination are low, but they can happen at any time so it's important to make sure that you are protected by having two doses of MMR vaccine.

What are the side effects from the vaccine?

Not everyone gets side effects from the vaccine. To provide protection, the vaccine mimics the three infections that it protects against. Some people may get a rash that looks like a mild form of measles, the face may swell to look like mumps or they may have pains in the joints like rubella. These side effects occur in a small percentage of people after the first dose.

The side effects from the measles part of the vaccine are usually seen when the vaccine starts to work – around 6–10 days after vaccination. Swelling of the face or joint pains tend to come on around two to three weeks after vaccination when the mumps and rubella vaccines start to work.

Side effects such as a rash or neck swelling only last for around 2–3 days and are not infectious. This means that if you do develop these side effects, you cannot pass on the infection to others.

On rare occasions, a reddish-purple rash that looks like tiny bruises can occur up to six weeks following vaccination.

Why should I or my children have the vaccine?

You should have the vaccine to protect yourself against three serious infections. By doing so you will also help to protect others who can't have the vaccine. These include unborn babies, infants who are too young to have the vaccine and children/adults who can't have the vaccine because they have weakened immune systems. This will help to prevent large outbreaks of disease.

You should also have the vaccine if you work with young children or care for people as part of your work.

Passing on measles to children who are too young to have MMR vaccine or to someone who is already ill, can have very serious consequences for their health. As a precaution, women should avoid getting pregnant for one month after MMR vaccination.

Does the MMR vaccine contain gelatine?

In the UK, we have two MMR vaccines which work very well. One of them contains gelatine derived from pigs and the other one doesn't. If you would prefer to have the vaccine that does not contain gelatine, talk to your practice nurse or GP.

If you think you might already have measles, mumps or rubella, it's important to reduce the risk of spreading the infection to other people. You should:

- Phone your GP for advice, they may need to make arrangements for you to visit the surgery at the end of the day so that you avoid contact with people who are more vulnerable to the infection, such as young children and pregnant women.
- Avoid work or school for at least four days from when you first developed the measles rash.
- Make arrangements to have any outstanding doses of the vaccine once you have recovered. This will protect you against the other two infections.

Is there anyone who should not have the MMR vaccine?

As the MMR vaccine is a live vaccine it should not be given to pregnant women or people who are severely immunosuppressed, for example those who have had a bone marrow transplant or are taking immunosuppressant medicines.

If you are unsure discuss this with your doctor. If you have had a confirmed anaphylactic reaction to neomycin you should not have the vaccine. If you have had a confirmed anaphylactic reaction to gelatine you should speak to your GP and arrange to have the gelatine-free vaccine.

Egg allergy

All those who are allergic to eggs, including children with asthma, can have the MMR vaccine at their GP Surgery. Anyone who has had a documented anaphylactic reaction to MMR vaccine itself should be assessed by an allergist.

What are the signs and symptoms?

Measles	Mumps	Rubella
Fever, cold-like symptoms, rash, sore eyes or conjunctivitis	Fever, headache and swollen glands in the face	Swollen glands, sore throat, temperature and a rash

Is it serious?

Yes	Yes	Yes
About 1 in 5 go to hospital and 1 in 15 will develop severe complications. Measles can cause deafness, fits, brain damage and swelling of the brain. Since 2006 there have been three deaths from measles in the UK.	Although most cases are mild, mumps can cause viral meningitis and painful inflammation of the ovaries or testicles and in rare cases, of the pancreas.	Although cases are mild, catching rubella during pregnancy can cause serious illness in unborn babies, including deafness, blindness and even death.

Who needs to have the vaccine?

- All children over the age of one year should have two doses of the vaccine, the first dose is usually given at one year of age and the second dose is usually given at age three years and four months old.
- Older children and adults should have two doses of the vaccine with a one month gap between them.
- Pregnant women should make sure that they are protected before they become pregnant or make sure they are vaccinated soon after the baby is born.

It is never too late to have the vaccine if you haven't had two doses.

Where can I get the vaccine?

From your GP surgery

- All children aged one year to three years four months should be offered the vaccine as part of their routine vaccinations at their GP surgery.
- Older children and adults should contact their GP practice if they have had one or no doses of the vaccine.
- Pregnant women can have the vaccine at their GP surgery after their baby is born if they don't have two documented doses.

At your school

Some adolescents and young adults are offered their missing doses of MMR vaccine with their other teenage booster vaccines.

From your employer's occupational health service

Health-care workers with direct patient contact should make sure they are protected against the three diseases.

Measles, it's not just a kids problem

If you would like more information about MMR please visit
www.nhs.uk/conditions/vaccinations/pages/mmr-vaccine.aspx

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3219250 1p 75k June 2016 (PUR)
Produced by Williams Lea for Public Health England

First published June 2016

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