

### Can a child's body cope with so many vaccines at one time?

Many parents worry that 3 virus antigens given all at once might be too much. This is not the case, the vaccines that babies receive in early childhood will help them cope with the tens of thousands of bacteria and viruses in the environment that their bodies are exposed to every day. According to research, it has been estimated that a baby's immune system can respond to around 10,000 vaccines at any one time.

### Is there a benefit in giving the 3 vaccines separately?

This idea has no scientific basis or supporting evidence. The World Health Organisation and other global immunisation programmes do not support giving separate vaccines as it could entail exposing children to increased risks of disease while waiting and some children might miss doses by neglect, without gaining any benefit.

### When is the vaccine given?

The full course of MMR vaccination requires 2 doses. The first dose of MMR is given at 12/13 months and a second (booster) dose is given at pre-school age. It is important to have both, as immunity is not complete otherwise.

### Where is the vaccine given?

The MMR vaccine is given by injection into the muscle of the arm or buttock.



### Side effects of the MMR vaccine

Given that the MMR vaccine comprises 3 separate vaccines within a single injection, different side effects can occur at different times.

The side effects of the MMR vaccine are usually mild; much more so than the potential complications of measles, mumps and rubella.

Side effects include:

- developing a mild form of measles that lasts for 2 to 3 days (this is not infectious)
- developing a mild form of mumps that lasts for a day or two (this is not infectious)
- In rare cases, a small rash of bruise-like spots may appear a few weeks after the injection.

If you notice this kind of rash, or if you have any concerns about your child's symptoms after having the MMR jab, please consult your GP or immunisation nurse.

*An important point to note is that the virus antigens in the vaccine are not infectious and it is not possible for people who have recently had the MMR vaccine to infect others.*

#### *The likelihood of serious complications...*

If 7,000 children had	the Measles	MMR vaccine
Pneumonia	300	0
Fits	35	1
Meningitis	20	Less than 1
Deaths	3	0
Brain Damage	1	0
Minor Complications	500	4

*For further advice or information, contact: The Immunisation Clinic at the Primary Care Centre on Tel: 200 70143*



### The MMR Vaccine

The MMR vaccine is a safe and effective combined vaccine that protects against 3 separate illnesses – **measles, mumps and rubella (German measles)**.

It contains weakened forms of the viruses that cause these illnesses and works by triggering the body's natural immune system to produce antibodies against them.

Measles, mumps and rubella are highly infectious conditions that can have serious, potentially fatal complications, including meningitis, swelling of the brain (encephalitis) and deafness. They can also lead to complications in pregnancy that affect the unborn baby, and can lead to miscarriage.

### **How serious are these diseases?**

**Measles** is a highly infectious viral illness that is most common in children aged 1-4 years old. It spreads very easily, causing cold-like symptoms, red eyes, fever and a red-brown spotty rash. Measles can be extremely unpleasant and can lead to serious health complications such as meningitis and pneumonia. In rare cases measles can be fatal.

**Mumps** is a contagious viral infection that causes painful swellings of the parotid salivary glands located behind the cheeks and under the ears, causing a “hamster face” appearance. Other symptoms include headache, joint pain and fever. Serious complications are rare, but include meningitis and in older children, swelling of the testicles and ovaries.

**Rubella** (also known as German measles) is a mild viral infection that causes a reddish pink skin rash, swollen glands and cold-like symptoms. It is not usually troublesome, but can be a serious concern if a pregnant woman catches the infection, which may result in the baby being born with serious birth defects.



### **How is the MMR Vaccine given?**

The MMR vaccine is given on the NHS as a single injection to babies as part of their routine vaccination schedule, usually within a month of their first birthday.

They will then have a second injection of the vaccine before starting school, usually at 3 years and 4 months.

Babies under 6 months old are not routinely given the MMR vaccine. This is because the antibodies to measles, mumps and rubella passed from mother to baby at the time of birth are retained and can work against the vaccine, this affects its efficacy. These maternal antibodies decline with age and are almost all gone by the time MMR is normally given at around the age of 1 year.

*The MMR vaccination is recommended for 6- to 9-month-old babies if they are at high risk of becoming infected in certain circumstances, such as during a measles outbreak.*

*However, if this is the case, these children may not have enough protection from this early dose, and will still need the standard MMR doses at 12 to 13 months and 40 months of age.*

Children up to the age of 18 who missed, or only partially completed, their earlier MMR vaccination can have a „catch-up“ MMR vaccination.

### **How does the MMR vaccine work?**

The MMR vaccine contains weakened versions of live measles, mumps and rubella viruses. The vaccine works by prompting the immune system to produce antibodies against measles, mumps and rubella. If you or your child then comes into contact with one of the diseases, the immune system will recognise it and immediately produce the antibodies needed to fight it.

The MMR vaccine given in the UK is known under the brand names Priorix, or M-M-RVAXPRO.

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

The MMR Vaccine is highly effective. Since its introduction, the incidence of all three diseases has fallen to near zero levels in countries all over the world. Not giving or delaying the MMR vaccine may result in increased prevalence of the diseases.

### **What was the controversy over the MMR vaccine?**

In 1998, a small group of researchers led by one Dr. Andrew Wakefield published an article claiming that the MMR vaccine was linked with autism and enterocolitis (inflammation of the small and large intestines). The research was seriously flawed, but the theory was widely taken up and promoted by the media, with the result that many parents decided not to give MMR vaccine to their children. Following this, huge numbers of national studies were carried out globally and all of them found the MMR vaccine to be both safe and effective.

In 2004, it was revealed that Wakefield had falsified data to create an elaborate fraud, from which he could benefit financially. Eventually, in 2011, Wakefield was struck off by the Medical Council on charges of dishonesty and abuse of developmentally challenged children.

These events made the MMR vaccine the most researched vaccine in history. Yet, it emerged with an impeccable record of safety and efficacy in protecting children. Sadly, damage to its reputation meant that throughout the 2000s several children were not immunised, leading to the 2008 outbreak of measles.

Subsequent studies in the last few years have found no link between the MMR vaccine and autism or bowel disease.