This information should be read in conjunction with

- ***Immunisation Guidelines for Ireland available at*** http://bit.ly/NIACGuidelines
- ***Summary of Product Characteristics for MMR vaccines available at www.hpra.ie***

MMR Vaccine

Do Health Care Workers need the MMR vaccine?

Health Care Workers (HCWs) in Ireland should have 2 doses of MMR vaccine. Two of the cases in recent outbreaks in Ireland were HCWs.

Can MMR vaccine be given at the same time as other vaccines?

MMR is a live vaccine and can be given at the same time or at any interval as non live vaccines such as 6in1, PCV, MenB, MenC , HPV (Human Papillomavirus) or Tdap (low dose tetanus, diphtheria and acellular) vaccines.

MMR vaccine can be given on the same day as other live vaccines except yellow fever.

MMR is a live vaccine and must not be administered within four weeks of varicella, zoster and yellow fever live vaccines.

Vaccination should be deferred for between three and eleven months following the administration of blood or blood product (see Immunisation Guidelines for Ireland for full details).

How many doses of MMR vaccine do children who receive MMR before 1 year need?

Children vaccinated <12 months in the case of an outbreak should have a repeat MMR vaccination at 12 months of age, at least one month after 1st MMR vaccine with a further dose at 4-5 years of age.

If a child aged <18 months receives a 2nd MMR vaccine within 3 months of the 1st MMR a 3rd MMR should be given at 4-5 years of age.

Are there any reasons why MMR should not be given?

NIAC has stated the following contraindications and precautions

Contraindications

1. Anaphylaxis to any of the vaccine constituents.
2. Significantly immunocompromised persons, such as those with untreated malignant disease and immunodeficiency states other than HIV infection, and those receiving immunosuppressive therapy, high-dose x-ray therapy and current high-dose systemic corticosteroids (see Chapter 3).
3. Pregnancy. Furthermore, pregnancy should be avoided for 1 month after MMR. 4. MMR should not be administered on the same day as yellow fever vaccine as co-administration of these two

vaccines can lead to suboptimal antibody responses to mumps, rubella and yellow fever antigens. If rapid protection is required then the vaccines should be given on the same day or at any interval and an additional dose of MMR should be given.

Precautions

1. Acute severe febrile illness, defer until recovery.
2. Injection with another live vaccine within the previous 4 weeks.
3. Recent administration of blood or blood products. Blood and blood products may contain significant levels of virus-specific antibodies, which could prevent vaccine virus replication. MMR should be deferred for at least 5 months after receipt of low-dose HNIG, 6 months after packed red-cell or whole-blood transfusion and 11 months after high-dose HNIG (as used for e.g. Kawasaki Disease) see Chapter 2 Table 2.4. If the MMR vaccine is administered within these timeframes, a further 1 or 2 doses as required, should be given outside these times.
4. Tuberculin skin testing should be deferred for at least 4 weeks after MMR vaccine as the measles vaccine can reduce the tuberculin response and could give a false negative result.
5. Patients who developed thrombocytopoenia within 6 weeks of their first dose of MMR should undergo serological testing to decide whether a second dose is necessary. The second dose is recommended if the patient is not fully immune to the 3 component viruses.
6. Topical tacrolimus and other topical immunomodulators should be discontinued for 28 days before and not restarted until 28 days after the administration of MMR vaccine.

The following are NOT contraindications to MMR vaccine

1. Allergy to egg, including anaphylaxis following egg. Currently-used measles, mumps and rubella vaccines do not contain significant amounts of egg cross-reacting proteins and recent data suggest that anaphylaxis following MMR is not associated with hypersensitivity to egg antigens but to other vaccine components (Gelatin or Neomycin).
2. Breast-feeding.
3. HIV-positive patients who are not severely immunocompromised (see Chapter 3).
4. Personal or family history of convulsions.
5. Immunodeficiency in a family member or household contact.
6. Uncertainty as to whether a person has had 2 previous MMR vaccines.
7. If women have received anti-RhD immunoglobulin it is not necessary to defer MMR vaccination as the response to the vaccine is not affected.
8. Hereditary fructose intolerance.

Which MMR vaccines are available and are they interchangeable?

Two MMR vaccines are available in Ireland; they are MMRvaxpro (MSD) and Priorix (GlaxoSmithKline). These vaccines are interchangeable i.e. if an individual has been vaccinated with one product in the past they can be either vaccinated with that MMR vaccine again or with the other brand.
Copies of the Summary of Product Characteristics (SmPC) and Patient Information Leaflet (PIL) can be found at www.hpra.ie

How is the MMR vaccine given?

MMR vaccine should be given intramuscularly.
MMR vaccine may be administered subcutaneously to persons with a bleeding disorder as the immune response and clinical reaction is expected to be comparable to intramuscular injection.
MMR vaccines must be used within one hour of reconstitution or be discarded.

What can be expected after vaccination?

For those for whom this is the 2nd dose of MMR, adverse reactions are considerably less common (< 1%) after a second dose. Individuals who are already immune as a result of natural infection or previous immunisation do not usually develop the associated adverse reactions.

Although adverse reactions following immunisation are most commonly reported at the time of vaccination (sore or red arm, occurring in approximately 10% of vaccine recipients) these are typically transient and of short duration. Fever (6%), rash (7%), headache, vomiting and salivary gland swelling may occur. A febrile convulsion occurs in 1 in 1,000 children.

Other possible adverse events that have been reported include:

- ‘Mini-measles’ may occur 6-10 days after immunisation and consists of mild pyrexia and an erythematous rash.
- ‘Mini-mumps’ with salivary gland swelling may rarely occur during the third week after immunisation.
- The rubella component may occasionally produce a rash, mild arthralgia, and lymph-node swelling 2-4 weeks post-vaccination, particularly in postpubertal females (up to 25% of recipients).
- Following licensure, anaphylaxis, erythema multiforme and thrombocytopenia have been reported very rarely. Patients who developed thrombocytopoenia within six weeks of their first dose of MMR vaccine should undergo serological testing to determine if a second dose is necessary

  - **Pregnancy should be avoided for 1 month after MMR vaccine**

HNIG

Post Exposure Prophylaxis of Measles Frequently Asked Questions

Why has NIAC issued new guidance?

NIAC has issued new guidance because most babies are now born to mothers who do not have natural immunity to measles. In vaccinated mothers levels of transplacental antibodies are low and wane rapidly so their infants are at risk of measles at a younger age.

Why is Human Normal Iimmunoglobulin (HNIG) recommended for all infants less than 6 months of age?

HNIG is recommended because MMR vaccine cannot be given as maternal antibodies would interfere with the vaccine. HNIG provides measles antibodies to prevent or modify the disease.

Why are there different recommendations for household and non household contacts aged 6 - <9 months?

Household (and household like) contacts have a higher likelihood of developing severe disease due to higher intensity exposure so require HNIG to provide rapid protection.

MMR vaccine is recommended for non household contacts as their risk of severe disease is less.
MMR vaccine will prevent or modify disease if given within 72 hours.

Why is HNIG recommended if MMR vaccine cannot be given?

Some infants may not be identified until more than 72 hours after initial exposure so MMR vaccine may not be given in time. If so, HNIG can be considered as this will provide antibodies to prevent or modify the disease up to 6 days after exposure.

Why is HNIG not given to household contacts aged 9 months and older?

Response to MMR vaccine is better in those aged 9 months and older.

Can HNIG and MMR vaccine be given at the same time?

No. HNIG and MMR vaccine should not be given together as HNIG interferes with the immune response to the vaccine.

What interval is required between HNIG and MMR vaccine?

There should be an interval of 6 months between HNIG and MMR vaccine as the HNIG interferes with the immune response to the vaccine.

What about giving MMR vaccine more than 72 hours after initial exposure?

Where exposure is likely to be ongoing e.g. following a single case in a crèche or during a community outbreak, MMR vaccine offered beyond three days may provide protection from subsequent exposures.

How can HNIG and MMR vaccine be ordered?

Please contact the National Cold Chain Delivery Service to order MMR vaccine and HNIG.

You will need to complete a "Supply of Exempt Medicinal Products Form" to order HNIG.