



## Control of measles outbreaks

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### General control measures

- Measles control depends on high levels of measles immunity with two doses of MMR vaccine.
- For non-immune, healthy individuals > 6 months of age, **MMR vaccine** may prevent measles infection, **if given within 72 hours of exposure**.
- For non-immune, **high-risk individuals** the National Immunisation Advisory Committee (NIAC) recommend that HNIG should be considered for infants <6months old\*, pregnant women who have no evidence of immunity/are IgG negative, and immunocompromised individuals who are IgG negative. Those who are severely immunocompromised (haematopoietic stem cell transplant (HSCT) in previous 12 months or severe primary immunodeficiency) should receive IVIG regardless of their immunity status.<sup>1</sup> HNIG products have been proven effective in preventing or attenuating measles if given **within six days of exposure**. Ideally these products should be administered **within 72 hours of exposure but can be given up to six days post exposure**.
- In some **outbreak situations**, non-immune individuals will be advised to stay away from schools/childcare/hospital for 21 days after the last case to protect themselves and others from measles.

\*Infants aged between 6 and 9 months may be offered HNIG depending on the timing of their exposure. Ideally **infants aged between 6 and 9 months should receive MMR vaccine within 72 hours** of exposure to a measles case. If this is not possible, consideration should be given to administering HNIG as post-exposure prophylaxis (PEP) **up to six days post exposure**.

The control of measles in the following settings is outlined in the following sections:

1. Control of outbreaks in schools
2. Control of outbreaks in day care centres
3. Control of outbreaks in health care settings
4. Control of outbreaks in the home and community

### 1. Control of measles outbreaks in schools

Measles outbreaks are unlikely to occur in schools with high uptake of two doses of MMR.

#### Recommendations:

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- All school children who are in senior infants or older should already have two doses of MMR
- Schools should make parents aware that measles can be prevented with two doses of MMR.
- In the event of an outbreak in a school any child without two doses of MMR vaccine **should urgently complete the two-dose schedule of MMR (the second dose given at least 28 days after the first MMR).**<sup>1</sup>
- **Staff born before 1978** have a high probability of measles immunity due to exposure to wild type virus.
- **Staff born since 1978**, without evidence of two doses of MMR vaccine or a history of measles should have two doses of MMR.

For persons born after 1978, adequate vaccination consists of two doses of measles containing vaccine separated by at least 28 days with the first dose administered no earlier than age 12 months.

## **2. Control of measles outbreaks in day care centres/crèche/childcare facility**

- Following notification of a possible measles case in a crèche/day care centre/childcare facility a risk assessment should be undertaken.
  - If risk assessment indicates low risk, e.g. unlikely to be a measles case, consider issuing a letter to parents **recommending age-appropriate MMR vaccination while awaiting swab results.**
  - If risk assessment indicates **high risk**, e.g. confirmed or highly suspicious case, or an outbreak situation, the **following actions should be considered.**
- **Vaccination with MMR** is recommended for all those attending the facility, and their siblings, who are older than one year of age and have not received two doses of MMR. **Any second dose of MMR** should be administered at least 28 days post administration of the first dose.
- A **single dose of MMR vaccine** may be given to attendees or siblings of attendees aged 6 to 11 months. **Children vaccinated before their first birthday should have a repeat vaccination at 12 months of age**, at least one month after the first vaccine with a further dose at 4-5 years of age.
- **Staff born after 1978**, who do not have documented evidence of 2 doses of MMR also should be vaccinated with MMR.

## **3. Control of measles outbreaks in health care settings**

### **Protecting hospitalised children from measles**

- **All elective admissions** to an institution associated with a current measles outbreak should be immunised prior to admission – preferably with two doses of MMR. Ideally, children on the waiting lists should be written to and informed of this recommendation prior to admission letter/phone call. Urgent elective admissions should not be delayed once at least one dose of MMR vaccine has been administered.

- There is no evidence that any effects of immunisation have an impact on outcomes of either anaesthesia or surgery. Urgent or emergency surgery should never be delayed because of recent vaccination.<sup>2</sup>
- **Unimmunised children who require urgent admission** should be immunised if there are no contra-indications.
- **All long-term patients born after 1978** attending the health care facility should have their immunisation status checked and be vaccinated if necessary.

## Protecting health care staff from measles

### Ensure staff are measles immune before exposure occurs:

- **All health care workers (HCWs), both clinical and non-clinical, who have direct patient contact should be immune to measles.** This applies to roles in which:
  - Work requires face to face contact with patients.
  - Normal work location is in a clinical area such as a ward, emergency department or outpatient clinic.
  - Work frequently requires them to attend clinical areas.
- According to NIAC, acceptable presumptive evidence of immunity against measles includes at least one of the following:
  - **Written documentation** of vaccination with two doses of MMR vaccine at least 28 days apart
  - **Serological evidence** of measles immunity (i.e., detectable measles specific IgG from an INAB accredited laboratory)
  - **Birth in Ireland before 1978.**

Most adults born in Ireland before 1978 are likely to have had measles infection. MMR vaccine should be offered to such individuals on request if they are considered at high risk of exposure. HCWs born since 1978 without evidence of two doses of MMR vaccine or measles immunity should be offered one or two doses of MMR vaccine as required at least 28 days apart so that a total of two doses are received.<sup>1</sup>

### Non-immune staff exposed to measles

- **Susceptible staff should be excluded from contact with suspect cases.**
- **Susceptible staff who have been exposed to measles** should be removed from patient contact and excluded from work from the 5th day after the first exposure to 21 days after the final exposure, regardless of whether they have received post-exposure MMR vaccine. This may be extended to 28 days after exposure for those who have received post-exposure immunoglobulin.
- **Staff who become ill should be removed from all patient contact** and excluded from work for at least 4 days after they develop the rash, until illness resolves.

## 4. Control of measles outbreaks in the home and community

- **MMR vaccine given within 72 hours of exposure** may provide protection against infection.

- **Household contacts born before 1978 are likely to have had measles infection.** MMR vaccine can be offered to such individuals on request if they are considered at high risk of exposure, particularly if they have no history of measles infection.
- **All household contacts born since 1978** who have not received two doses of MMR vaccine should complete the two-dose schedule of MMR (the second dose given at least 28 days after the first dose of MMR vaccine).
- **MMR vaccine may be given to children as young as six months of age.** Children vaccinated before their first birthday should have a repeat vaccination at 12 months of age, at least one month after the first vaccine with a further dose at 4-5 years of age.
- **Immunoglobulin** may be indicated in certain circumstances. Further information on HNIG is available at [Immunisation Guidelines for Ireland. Chapter 12 Measles \(Updated February 2024\)](#)
- **Parents should be advised that unimmunised siblings may be incubating measles, and it is recommended that they to stay out of school from the 5th day after the first exposure to 21 days after the end of the case's infectious period.** This is to avoid transmitting measles to other children in the school.

## References

1. National Immunisation Advisory Committee. Immunisation Guidelines for Ireland. Chapter 12. Measles (Updated February 2024) available at [https://rcpi.access.preservica.com/uncategorized/IO\\_3a9e3acb-949b-48e5-a2b5-d353f88bde37/](https://rcpi.access.preservica.com/uncategorized/IO_3a9e3acb-949b-48e5-a2b5-d353f88bde37/)
2. National Immunisation Advisory Committee. Immunisation Guidelines for Ireland. Chapter 2. General Immunisation Procedures (Updated 2022). Available at: [https://rcpi.access.preservica.com/uncategorized/IO\\_812f584c-e1b8-4dd0-9aab-a4370f9b9f83/](https://rcpi.access.preservica.com/uncategorized/IO_812f584c-e1b8-4dd0-9aab-a4370f9b9f83/)