Administration of measles, mumps and rubella (MMR) vaccine

Patient group direction (PGD)

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Version 2.1

Translations and other formats are available on request at:

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Most recent changes

Version	Date	Summary of changes
2.1	1 March 2024	The following changes to version 2.0 of the PGD have been made: • This PGD has undergone minor rewording, layout, formatting changes for clarity and consistency with other PHS national specimen PGDs. • Inclusion criteria, frequency and reference section updated to remove MMR use under this PGD for individuals who have received a haemopoietic stem cell transplant. • Exclusion criteria and action if excluded sections updated to specify live shingles vaccine. • Frequency section updated to reference UKHSA National Measles Guidance • Observation following vaccination section updated to include advice on driving post-immunisation.

Contents

Authorisation

PGD measles, mumps and rubella (MMR) vaccine.

This Patient Group Direction (PGD) has been produced by Public Health Scotland to assist NHS Boards.

The qualified health professionals who may administer measles, mumps and rubella vaccine under this PGD can only do so as named individuals. It is the responsibility of each professional to practice within the bounds of their own competence and in accordance with their own Code of Professional Conduct and to ensure familiarity with the manufacturer's product information/Summary of Product Characteristics (SmPC) for all vaccines administered in accordance with this PGD.

NHS Board governance arrangements will indicate how records of staff authorised to operate this PGD will be maintained. Under PGD legislation there can be no delegation. Administration of the vaccine has to be by the same practitioner who has assessed the patient under the PGD.

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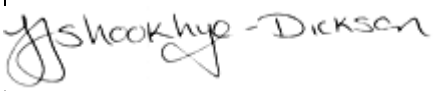
Name: Jacqui Shookhye-Dickson  Signature: Date: 04/03/2024	Designation: Health Protection Nurse Specialist E-mail address: **jacqui.shookhye-dickson@ggc.scot.nhs.uk**
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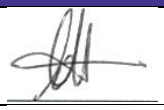
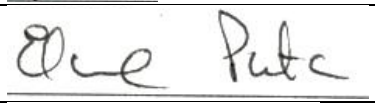
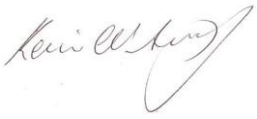
Chair	Dr Craig Harrow	
Senior Pharmacist	Elaine Paton, Senior Prescribing Adviser	
Nurse Director Representative	Kevin McAuley, Lead Nurse North Sector	

Effective from: 1 March 2024 Review date: 28 February 2026

1. Clinical situation

1.1. Indication

Immunisation against measles, mumps and/or rubella disease.

1.2. Inclusion criteria

- Individuals from one year of age (on or after their first birthday) or older as part of the Scottish childhood immunisation programme.
- Individuals with uncertain or incomplete immunisation status in accordance with the **vaccination of individuals with uncertain or incomplete immunisation status** flow chart.
- Individuals between 6 months and 1 year of age and early protection is considered necessary, such as due to travel or outbreak.
- Individuals aged 6 months and over and vaccination is indicated for measles post-exposure prophylaxis in accordance with local public health team advice.

Valid consent has been given to receive the vaccine.

1.3. Exclusion criteria

Individuals who:

- have had a confirmed anaphylactic reaction to a previous dose of any measles, mumps or rubella containing vaccine or to any components of the vaccine, these may include neomycin or gelatin (refer to relevant SmPC).
- have a history of severe (i.e. anaphylactic reaction) to latex where the vaccine is not latex-free.
- are known to be pregnant.

- have a primary or acquired immunodeficiency state (see the ‘Green Book’ **Chapter 6** for more detail).
- are on current or recent high dose immunosuppressive or biological therapy (see the ‘Green Book’ **Chapter 6** for more detail).
- have received varicella, Zostavax® (live shingles vaccine) or yellow fever vaccine in the preceding 4 weeks, unless protection against measles is required rapidly (see the Green Book **Chapter 21 Table 21.1**).
- have received blood products, such as immunoglobulins, in the preceding 3 months, unless protection against measles is required rapidly (see the Green Book, **Chapter 21**).
- are awaiting reading of a tuberculin (Mantoux) skin test, unless protection against measles is required rapidly (see ‘Green Book’ **Chapter 21 Table 21.1**).
- are suffering from acute severe febrile illness (the presence of a minor infection is not a contraindication for immunisation).

1.4. Cautions/need for further advice/ circumstances when further advice should be sought from a doctor

The Green Book advises there are very few individuals who cannot receive MMR vaccine. When there is doubt, appropriate advice should be sought from the relevant specialist, or from the local immunisation or health protection team.

If idiopathic thrombocytopenic purpura (ITP) has occurred within six weeks of the first dose of MMR, then blood should be taken and tested for measles, mumps and rubella antibodies before a second dose is given. If the results suggest incomplete immunity against measles, mumps or rubella, then a second dose of MMR is recommended. Seek specialist advice.

MMR vaccine is not recommended for patients with severe immunosuppression (see Green Book **Chapter 6**). MMR vaccine can be given to people living with HIV who

are not immunosuppressed or those with moderate immunosuppression (as defined in Green Book **Chapter 21, Table 21.2**).

The presence of a neurological condition is not a contraindication to immunisation but if there is evidence of current neurological deterioration, deferral of vaccination may be considered, to avoid incorrect attribution of any change in the underlying condition. The risk of such deferral should be balanced against the risk of the preventable infection, and vaccination should be promptly given once the diagnosis and/or the expected course of the condition become clear. If there is a risk of exposure, however, it may be more appropriate to counsel the patient about the benefits of protection rather than deferring. Children with a personal or close family history of seizures should be given MMR vaccine.

Co-administration with other vaccines

MMR vaccine can be given at the same time as other vaccines such as DTaP/ IPV, Hib/MenC, PCV, hepatitis B and Men B. If the MMR vaccine cannot be given at the same time as an **inactivated** vaccine, it can be given at any interval before or after. Vaccines administered at the same time should preferably be given in a separate limb, but if this is not possible they should be given at least 2.5cm apart. The site at which each vaccine is given should be noted in the child's record.

Advice on intervals between live vaccines is based upon specific evidence of interference between vaccines. The current advice for MMR is detailed in Green Book, **Chapter 21 Table 21.1.**

Syncope

Syncope (fainting) can occur following, or even before, any vaccination especially in adolescents as a psychogenic response to the needle injection. This can be accompanied by several neurological signs such as transient visual disturbance, paraesthesia and tonic-clonic limb movements during recovery. It is important that procedures are in place to avoid injury from faints.

Pregnancy and breastfeeding

Individuals who are pregnant should be advised to avoid contact with known or suspected cases of measles, mumps and rubella infection and report any rash illness or contact with rash illness to their GP and/or midwife. Women who are lacking two documented doses of MMR should be immunised after their pregnancy, at the earliest opportunity and before any further pregnancies. Note: MMR can be given to breast-feeding mothers without any risk to their baby.

1.5 Action if excluded

Specialist advice must be sought on the vaccine and circumstances under which it could be given. Immunisation using a patient specific direction may be indicated. The risk to the individual of not being immunised must be taken into account.

Document the reason for exclusion and any action taken in accordance with local procedures.

Inform or refer to the clinician in charge.

In case of postponement due to acute severe febrile illness, advise when the individual can be vaccinated and ensure another appointment is arranged.

Individuals who have had a confirmed anaphylactic reaction to a previous dose of MMR vaccine or any components of the vaccine should be referred to a clinician for specialist advice and appropriate management.

Individuals who have been immunised against varicella, Zostavax (live shingles vaccine) or yellow fever within the last 4 weeks, or received blood products in the preceding 3 months, and do not require rapid protection against MMR, defer immunisation until appropriate interval (see Green Book **Chapter 21 Table 21.1**)**.**

Individuals who are awaiting reading of a tuberculin (Mantoux) test, should delay MMR vaccination until the skin test has been read unless protection against measles is required urgently.

1.6. Action if patient declines

Advise the individual about the protective effects of the vaccine, the risks of infection and potential complications of disease.

Advise how future immunisation may be accessed if they subsequently decide to receive the vaccine.

Document advice given and decision reached.

Inform or refer to the clinician in charge.

2. Description of treatment

2.1. Name of medicine/form/strength

Measles, mumps and rubella vaccine (live):

- Priorix® or MMRVaxPRO®.
- Priorix®, powder and solvent for solution for injection in a pre-filled syringe.
- MMRVaxPRO®, powder and solvent for suspension for injection in a pre-filled syringe.

2.2. Route of administration

Administer by intramuscular injection. The preferred site is the deltoid region of the upper arm or the anterolateral aspect of the thigh.

The intramuscular route is routinely used because localised reactions are more common when vaccines are given subcutaneously. However, for individuals with a bleeding disorder, vaccines may alternatively be given by deep subcutaneous injection to reduce the risk of bleeding.

The vaccine must be reconstituted in accordance with the manufacturer's instructions prior to administration.

The vaccine should be visually inspected for particulate matter and discoloration prior to administration. In the event of any foreign particulate matter and/or variation of physical aspect being observed, do not administer the vaccine.

2.3. Dosage

0.5ml

2.4. Frequency

Routine childhood immunisation schedule

A total of two doses of 0.5ml provided at the recommended interval below:

- the first dose should routinely be given at 1 year of age (on or after the first birthday).
- the second dose is routinely scheduled before school entry at three years four months of age.

Incomplete immunisation history

Individuals from 1 year of age who have not received an MMR vaccine should receive a dose and be brought up to date at the earliest opportunity.

An individual who has already received one dose of MMR should receive a second dose according to the routine schedule or at least 1 month after the first dose (when aged 18 months or over) to ensure that they are protected.

Those individuals with uncertain or incomplete immunisation status should be vaccinated in accordance with the **vaccination of individuals with uncertain or incomplete immunisation status** flow chart.

Early vaccination due to travel, outbreak or contact with a probable or confirmed case of measles

In accordance with advice from local health protection team informed by**UKHSA National measles guidelines**.

The MMR vaccine can be given from 6 months of age when early protection is required.

The response to MMR in infants is sub-optimal where the vaccine has been given before 1 year of age. If a dose of MMR is given before the first birthday, then this

dose should be ignored. Two further doses of MMR should be given at the recommended ages in accordance with the routine schedule (at 1 year of age and a pre-school dose at three years four months).

Children who are travelling to epidemic or endemic areas, or who are a contact with a probable or confirmed case of measles, who have received one dose of MMR at the routine age should have the second dose brought forward to at least one month after the first. If the child is given the second dose at less than 15 months of age, then another routine dose (a third dose) should be given after 18 months of age in order to ensure full protection.

2.5. Duration of treatment

See frequency section.

2.6. Maximum or minimum treatment period

See frequency section.

2.7. Quantity to supply/administer

See frequency section.

2.8. ▼ black triangle medicines

No

2.9. Legal category

Prescription only medicine (POM).

2.10. Is the use out with the SmPC?

Administration to infants between 6 months and 9 months of age is off-label but in line with measles post-exposure prophylaxis guidance in accordance with recommendations given in Green Book **Chapter 21**, **Chapter 23** and **Chapter 28**

Vaccine should be stored according to the conditions detailed below. However, in the event of an inadvertent or unavoidable deviation of these conditions refer to NHS Board guidance on storage and handling of vaccines or National Vaccine Incident Guidance. Where vaccine is assessed in accordance with these guidelines as appropriate for continued use, administration under this PGD is allowed.

2.11. Storage requirements

Vaccine should be stored at a temperature of +2° to +8°C.

Store in the original packaging to protect from light.

Do not freeze.

After reconstitution, the vaccine should be administered promptly or stored between +2°C to +8°C and used within 8 hours of reconstitution. If not used after this time it should be discarded.

NHS Board guidance on Storage and Handling of vaccines should be observed.

In the event of an inadvertent or unavoidable deviation of these conditions, vaccine that has been stored outside the conditions stated above should be quarantined and risk assessed for suitability of continued off-label use or appropriate disposal.

2.12. Additional information

Minor illnesses without fever or systemic upset are not valid reasons to postpone immunisation. If an individual is acutely unwell, immunisation may be postponed until they have fully recovered.

Recent data suggest that anaphylactic reactions to MMR vaccine are not associated with hypersensitivity to egg antigens. All children with egg allergy should receive the MMR vaccination as a routine procedure in primary care.

MMRVaxPRO® (Sanofi Pasteur MSD) contains porcine gelatine. Priorix® (GSK) does NOT contain porcine gelatine and can be offered as an alternative to MMRVaxPRO®. Health professionals should be aware to order Priorix® when running clinics for relevant communities.

MMR vaccine is recommended when protection against measles, mumps and/or rubella is required. MMR vaccine can be given irrespective of a history of measles, mumps or rubella infection or vaccination. There are no ill effects from vaccinating those who are already immune. If there is doubt about an individual's MMR immune status, MMR vaccine should still be given.

Immunological response may be diminished in those receiving immunosuppressive treatment.

Entry into college, university or other higher education institutions, prison or military service provides an opportunity to check an individual's immunisation history. Those who have not received two doses of MMR should be offered appropriate MMR immunisation.

Pre-conceptual care, antenatal and post-natal checks provide an opportunity to assess MMR status. Individuals who have not received two doses of MMR at an appropriate interval should be offered pre- or post-natal MMR immunisation. Pregnancy should be avoided for at least 1 month following vaccination.

3. Adverse reactions

3.1. Warnings including possible adverse reactions and management of these

For full details/information on possible side effects, refer to the marketing authorisation holder's SmPC.

As with all vaccines there is a very small possibility of anaphylaxis and facilities for its management must be available.

In the event of severe adverse reaction individuals should be advised to seek medical advice.

The most common adverse reactions are fever and injection site reactions including pain, swelling and erythema.

Malaise, fever and/or a rash may occur, most commonly about a week after immunisation, and last about two to three days. In studies parotid swelling occurred in about 1% of children of all ages up to four years, usually in the third week.

Events due to the measles component occur six to eleven days after vaccination. Events due to the mumps and rubella components usually occur two to three weeks after vaccination but may occur up to six weeks after vaccination. Individuals with vaccine-associated symptoms are not infectious to others.

Adverse reactions are considerably less common after a second dose of MMR vaccine than after the first dose.

Rare and more serious events

Febrile seizures are the most commonly reported neurological event following measles immunisation. Seizures occur during the sixth to eleventh day in 1 in 1000 children vaccinated with MMR.

Arthropathy (arthralgia or arthritis) has also been reported to occur rarely after MMR immunisation, probably due to the rubella component. If it is caused by the vaccine, it should occur between 14 and 21 days after immunisation. Where it occurs at other times, it is highly unlikely to have been caused by vaccination.

ITP has occurred rarely following MMR vaccination, usually within six weeks of the first dose and resolves spontaneously. The risk of developing ITP after MMR vaccine is much less than the risk of developing it after infection with wild measles or rubella virus.

Further details on adverse reactions following MMR vaccine can be found in the Green Book **Chapter 21**, **Chapter 23** and **Chapter 28**.

3.2. Reporting procedure for adverse reactions

Healthcare professionals and individuals/carers should report all suspected adverse reactions to the Medicines and Healthcare products Regulatory Agency (MHRA) using the Yellow Card reporting scheme on **http://www.mhra.gov.uk/yellowcard**

Any adverse reaction to a vaccine should be documented in accordance with locally agreed procedures in the individual's record and the individual's GP should be informed.

3.3. Advice to patient or carer including written information

Written information to be given to individual:

- Provide manufacturer's consumer information leaflet/patient information leaflet (PIL) provided with the vaccine.
- Supply immunisation promotional material as appropriate.

Individual advice / follow up treatment:

- Inform the individual/carer of possible side effects and their management.

- The individual should be advised to seek medical advice in the event of a severe adverse reaction.
- Advise the individual that pregnancy should be avoided for one month after the vaccination.
- Inform the individual that they can report suspected adverse reactions to the MHRA using the Yellow Card reporting scheme on: **http://www.mhra.gov.uk/yellowcard**

3.4. Observation following vaccination

As syncope (fainting) can occur following vaccination, all vaccinees should either be driven by someone else or should not drive for 15 minutes after vaccination.

Following immunisation, patients remain under observation in line with NHS Board policy.

3.5. Follow up

Not applicable.

3.6. Additional facilities

A protocol for the management of anaphylaxis and an anaphylaxis pack must always be available whenever vaccines are given. Immediate treatment should include early treatment with intramuscular adrenaline, with an early call for help and further IM adrenaline every 5 minutes.

The health professionals overseeing the immunisation service must be trained to recognise an anaphylactic reaction and be familiar with techniques for resuscitation of a patient with anaphylaxis.

4. Characteristics of staff authorised under the PGD

4.1. Professional qualifications

The following classes of registered healthcare practitioners are permitted to administer this vaccine:

- nurses and midwives currently registered with the Nursing and Midwifery Council (NMC)
- pharmacists currently registered with the General Pharmaceutical Council (GPhC)
- chiropodists/podiatrists, dieticians, occupational therapists, orthoptists, orthotists/prosthetists, paramedics, physiotherapists, radiographers and speech and language therapists currently registered with the Health and Care Professions Council (HCPC)
- dental hygienists and dental therapists registered with the General Dental Council
- optometrists registered with the General Optical Council.

4.2. Specialist competencies or qualifications

Persons must only work under this PGD where they are competent to do so.

All persons operating this PGD:

- must be authorised by name by their employer as an approved person under the current terms of this PGD before working to it.
- must be familiar with the vaccine product and alert to changes in the manufacturer's product information/summary of product information.

- must be competent to undertake immunisation and to discuss issues related to immunisation to assess patients for vaccination and obtain consent.
- must be competent in the correct storage of vaccines and management of the cold chain if receiving, responsible for, or handling the vaccine.
- must be competent in the recognition and management of anaphylaxis or under the supervision of persons able to respond appropriately to immediate adverse reactions.
- must have access to the PGD and associated online resources.
- should fulfil any additional requirements defined by local policy.

Employer

The employer is responsible for ensuring that persons have the required knowledge and skills to safely deliver the activity they are employed to provide under this PGD.

As a minimum, competence requirements stipulated in the PGD must be adhered to.

4.3. Continuing education and training

All practitioners operating under the PGD are responsible for ensuring they remain up to date with the use of vaccines included. If any training needs are identified these should be discussed with the individuals in the organisation responsible for authorising individuals to act under this PGD.

5. Audit trail

Record the following information:

- valid informed consent was given
- name of individual, address, date of birth and GP with whom the individual is registered if possible
- name of person that undertook assessment of individual's clinical suitability and subsequently administered the vaccine
- name and brand of vaccine
- date of administration
- dose, form and route of administration of vaccine
- batch number
- where possible expiry date
- anatomical site of vaccination
- advice given, including advice given if excluded or declines immunisation
- details of any adverse drug reactions and actions taken
- administered under PGD

Records should be kept in line with local procedures

Local policy should be followed to encourage information sharing with the individual's General Practice

All records should be clear, legible and contemporaneous and in an easily retrievable format.

6. Additional references

- **Immunisation against Infectious Disease [Green Book].**
- **Immunisation against Infectious Disease [Green Book] chapter 21.**
- **Immunisation against Infectious Disease [Green Book] chapter 23.**
- **Immunisation against Infectious Disease [Green Book] chapter 28.**
- Current edition of British National Formulary.
- Marketing authorisation holder's Summary of Product Characteristics.
- All relevant Scottish Government Health Directorate advice including the relevant CMO letter(s).
- **Professional Guidance on the Administration of Medicines in Healthcare Settings 2019.**
- **Professional Guidance on the Safe and Secure Handling of Medicines.**
- **UKHSA National measles guidelines**

7. PGD for administration of measles, mumps and rubella vaccine V2.1 (valid from 1 March 2024 and expires 28 February 2026): authorisation

Practitioner

This PGD does not remove professional obligations and accountability. It is the responsibility of each professional to practice within the bounds of their own competence and in accordance with their Code of Professional Conduct and to ensure familiarity with the marketing authorisation holder's summary of product characteristics for all vaccines administered in accordance with this PGD.

By signing this Patient Group Direction, you are indicating that you agree to its contents and that you will work within it.

I agree to administer measles, mumps and rubella vaccine only in accordance with this PGD.

Name of professional	Signature	Date

Authorising manager

I confirm that the practitioners named above have declared themselves suitably trained and competent to work under this PGD. I give authorisation on behalf of **[insert name of organisation]** for the above-named health care professionals who have signed the PGD to work under it.

Lead clinician for the service area:

Name …….

Signature ……..

Date ……

Authorised staff should be provided with an individual copy of the clinical content of the PGD and a photocopy of the document showing their authorisation.

This authorisation sheet should be retained to serve as a record of those practitioners authorised to work under this PGD.

8. Version history

Version	Date	Summary of changes
1.0	1 September 2021	• Version 1.0 new PGD
2.0	1 June 2022	• Inclusion criteria expanded to include other patient groups out-with the Scottish childhood immunisation programme. • Frequency section updated to include dosing information for the other patient groups out-with the Scottish childhood immunisation programme.
2.1	1 March 2024	The following changes to version 2.0 of the PGD have been made: • This PGD has undergone minor rewording, layout, formatting changes for clarity and consistency with other PHS national specimen PGDs. • Inclusion criteria, frequency and reference section updated to remove MMR use under this PGD for individuals who have received a haemopoietic stem cell transplant. • Exclusion criteria and action if excluded sections updated to specify live shingles vaccine. • Frequency section updated to reference UKHSA National Measles Guidance • Observation following vaccination section updated to include advice on driving post-immunisation.