SOP Objective

To ensure that Healthcare Workers (HCWs) are aware of the actions and precautions necessary to minimise the risk of outbreaks and the importance of diagnosing patients’ clinical conditions promptly.

This SOP applies to all staff employed by NHS Greater Glasgow & Clyde and locum staff on fixed term contracts and volunteer staff.

KEY CHANGES FROM THE PREVIOUS VERSION OF THIS SOP

- **Updated wording in Section 2. General Information on Measles** (Clinical Condition and Mode of Spread)
- **Updated wording in Section 3. Transmission Based precautions for Patients with Measles** (Accommodation, Domestic Services, Exposure, Hand Hygiene, Linen, PPE, Visitors)
- **Updated references in Section 4. Evidence Base**
- **Updated Guidance in Appendix 1 — Aide Memoire**

Document Control Summary

<table>
<thead>
<tr>
<th>Approved by and date</th>
<th>Board Infection Control Committee 26th Sept 2018</th>
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<tbody>
<tr>
<td>Date of Publication</td>
<td>26th Sept 2018</td>
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<tr>
<td>Developed by</td>
<td>Infection Control Policy/SOP Sub-Group</td>
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**Related Documents**

- National IPC Manual
- NHSGGC SOP Hand Hygiene
- NHSGGC SOP Occupational Related Illnesses
- NHSGGC SOP Cleaning of Near Patient Equipment
- NHSGGC SOP Twice Daily Clean of Isolation Rooms
- NHSGGC SOP Terminal Clean of Isolation Rooms/ward

**Distribution/Availability**


<table>
<thead>
<tr>
<th>Lead Manager</th>
<th>Board Infection Control Manager</th>
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<tr>
<td>Responsible Director</td>
<td>Board Medical Director</td>
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Measles Aide Memoire

Consult SOP and isolate in a single room with:
- ensuite / own commode
- door closed
- IPC yellow sign on door
- dedicated equipment
- Ideally room should have negative pressure ventilation
- Care Checklist completed daily

Patient Assessed Daily

It has been 4 days since the onset of rash

NO

YES

✓ Stop isolation
✓ undertake terminal clean of room

SOP - Guidelines for patients in isolation:

Hand Hygiene: Liquid Soap and Water or alcohol hand rub

PPE: Staff must wear:

A disposable yellow apron, gloves and an FFP3 mask for direct care, including aerosol generating procedures.

Where there is a risk of splashing of blood/body fluids to the face, eye protection should be considered.

Patient Environment: Twice daily chlorine clean

Patient Equipment: Chlorine clean after use and at least on a twice daily basis

Laundry: Treat as infected

Waste: Dispose of as Clinical / Healthcare waste

Incubation Period: 7 – 18 days

Period of Communicability: 5 days before, until 4 days after the onset of rash

Notifiable disease: Yes

Transmission route: direct, indirect droplet, airborne.
1. Responsibilities

Healthcare Workers (HCWs) must:
• Follow this SOP.
• Inform their line manager if this SOP cannot be followed.

Clinicians must:
• Notify NHSGGC Public Health Protection Unit (PHPU) if they diagnose a clinical case of Measles.

Microbiologists must:
• Laboratory staff must notify NHSGGC PHPU if they make a laboratory diagnosis of Measles.

Senior Charge Nurses (SCN) / Managers must:
• Support HCWs and Infection Prevention and Control Teams (IPCTs) in following this SOP.
• Advise HCWs to contact the Occupational Health Service (OHS) as necessary.

Infection Prevention and Control Teams (IPCTs) must:
• Keep this SOP up-to-date.
• Provide education opportunities on this SOP.

Occupational Health Service (OHS) must:
• Advise HCW regarding immune status, possible infection exposure and return to work issues as necessary.

The most up-to-date version of this SOP can be viewed at the following website:
http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/
## 2. General information on Measles

<table>
<thead>
<tr>
<th>Communicable Disease/Alert Organism</th>
<th>Measles caused by the measles virus – an enveloped virus.</th>
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<tbody>
<tr>
<td><strong>Clinical Condition</strong></td>
<td>A respiratory disease caused by the measles virus. It is an acute disease which causes fever, cough, coryza, conjunctivitis, diarrhoea, erythematous maculopapular rash and spots (Koplik spots) on the buccal mucosa (inner cheek) and is highly infectious. The spots usually appear before the rash.</td>
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</table>

Symptoms first appear 10-12 days after exposure to the virus. Usually symptoms start as fever, then runny nose, cough and/or conjunctivitis (pink eye).

A rash appears starting from the face and neck, any time between day 3 and day 7 after symptoms start. Within 3 days the rash then spreads downwards and out to the hands and feet. It lasts about 4-7 days.

The disease can be more severe in infants and adults than children with as many as 20% having complications, especially in those < 5 and > 20 years of age. Complications include otitis media, viral pneumonia, croup, rarely encephalitis and (later) subacute sclerosing panencephalitis. Secondary bacterial infections, such as pneumonia, can also occur. Infections can be life-threatening in the immunosuppressed.

If a clinical case of measles is suspected, clinicians should seek advice from a paediatric/ adult ID physician and Public Health.

<table>
<thead>
<tr>
<th>Incubation period</th>
<th>7 – 18 days.</th>
</tr>
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<tbody>
<tr>
<td><strong>Mode of Spread</strong></td>
<td><strong>Airborne</strong> and <strong>Droplet transmission</strong> – Droplets are dispersed in the air when the patient coughs, sneezes or talks. Droplets from an infected person may land on the mucous membranes of the eyes, nose or mouth of a susceptible person. <strong>Direct contact</strong> – hands touching a contaminated surface then touching the mucous membranes of the eyes, nose or mouth of a susceptible person. <strong>Indirect contact</strong> – a contaminated object having contact with the mucous membranes. The virus can survive on inanimate surfaces for several hours and can be transmitted via the hands from these contaminated surfaces.</td>
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</table>
### Measles

**Notifiable disease**  
Yes. Cases should be notified by medical staff to: PHPU, Consultant in Public Health Medicine (CPHM) via switchboard - cases must be notified urgently by telephone (in and out of hours). Formal written notification can subsequently be made within 3 days. Gartnavel Royal Hospital, West House, 1055 Great Western Road, Glasgow, G12 0XH.

**Period of communicability**  
Five days before the onset of the rash until 4 days after (Day of rash being counted as Day Zero). Immunocompromised patients may have prolonged excretion of the virus in respiratory secretions and can be infectious for the duration of the illness.

Patients with subacute sclerosing panencephalitis (SSPE) are not infectious.

**Persons most at risk**  
Anyone who has not had measles or 2 doses of MMR vaccination, including children less than 12 months old. The risk of complications resulting from measles is high among infants younger than 1 year of age. Therefore consideration should be given to vaccination of infants as young as 6 months if given within 72 hours of exposure.

Immunocompromised patients and pregnant woman, exposed to Measles, should also be reviewed to determine level of exposure and immunity.

Staff, who have been exposed and are uncertain of their immunity status, should speak to occupational Health and/or their own GP if concerned.
### 3. Transmission Based Precautions for patients with Measles

<table>
<thead>
<tr>
<th><strong>Accommodation (Patient Placement)</strong></th>
<th>Patients must be nursed in a single room, preferably with en suite facilities and negative pressure ventilation until 4 days after the onset of the rash.</th>
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<tbody>
<tr>
<td><strong>Clinical/ Healthcare Waste</strong></td>
<td>All non-sharps waste from patients with Measles should be designated as clinical healthcare waste and placed in an orange bag. See NHS GGC Waste Management Policy</td>
</tr>
<tr>
<td><strong>Contacts</strong></td>
<td>There is no specific treatment for measles. MMR vaccine and Human immunoglobulin can be used as post-exposure prophylaxis to prevent or reduce the severity of measles in those at highest risk. Different indications apply to the two products. MMR must be given within 72 hours to be effective. MMR is a live vaccine so is not suitable for pregnant women and immunocompromised. Generally, HNIG can be given up to 6 days after exposure, though is most effective if given within 72 hours. This time limit might be extended in severely immunocompromised. Public Health advice should be sought on the management of contacts. Guidance on PEP is available in documents listed under section 4 of this SOP</td>
</tr>
<tr>
<td><strong>Domestic Services / Facilities</strong></td>
<td>Only staff who have had measles or who have demonstrated immunity to measles should enter the room to provide domestic services. Domestic staff must follow the SOP for Twice Daily Clean of Isolation Rooms. Cleans should be undertaken at least four hours apart. Please refer to NHSGGC <a href="http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/">SOP Twice Daily Clean of Isolation Rooms</a>.</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>Take only into the room that which is necessary. Where practical allocate individual equipment and decontaminate as per NHSGGC Decontamination SOP. Please refer to <a href="http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/">NHSGGC Decontamination SOP</a>.</td>
</tr>
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</table>
**Measles**

The most up-to-date version of this SOP can be viewed at the following website:

| Exposure (staff) | Prevent exposure by allowing only HCWs who are immune to measles to care for patients during the infectious period using Standard Infection Control Precautions (SICPs) and Transmission Based Precautions (TBPs). Refer to [NHSGGC Occupational Related Illnesses SOP](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/)  
Pregnant staff or staff who have been exposed and are unsure of their immunity status should contact Occupational Health and/or their own GP for advice as soon as possible.  
See **Contacts** section for information on post exposure prophylaxis |
| Exposure (patients) | Seek advice from an Infection Specialist. Contact ID at QEUH or the on-call consultant in paediatric infectious diseases at Royal Hospital for Sick Children (RHSC) via switchboard.  
See **Contacts** section for information on post exposure prophylaxis |
| **Hand Hygiene** | Measles can be transmitted by direct contact  
Hand hygiene is the single most important measure to prevent cross-infection with measles  
Hands must be decontaminated before and after each direct patient contact, after contact with the environment, after exposure to body fluids and before any aseptic tasks.  
Patients should be encouraged to carry out thorough hand hygiene.  
Please refer to [NHSGGC Hand Hygiene Policy](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/) |
| **Last Offices** | See [National guidance for Last Offices](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/) |
| **Linen** | Treat used linen as soiled/ infected, i.e. place in a water soluble bag, then a secondary bag tied and then into a laundry bag. (Brown polythene bag used in Mental Health areas)  
Please refer to [National Guidance on the safe management of linen](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/)  
Any soiled clothing for home laundering should be placed into a water soluble bag then into a patient clothing bag before being sent home. All soiled clothing for home laundering should be accompanied with a [Home Laundering Information](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/) |
<table>
<thead>
<tr>
<th><strong>Leaflet</strong> and staff should alert relatives / carers to the condition of the laundry.</th>
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<tbody>
<tr>
<td><strong>Moving between wards, hospitals and departments (including theatres)</strong> Patient movement should be kept to a minimum. Prior to transfer HCWs from the ward where the patient is located must inform the receiving ward, theatre or department of the patient’s infectious condition. When patients need to attend other departments the receiving area should put in place arrangements to minimise contact with other patients and arrange for additional domestic cleaning if required.</td>
</tr>
<tr>
<td><strong>Notice for Door</strong> Yes, yellow IPC isolation sign.</td>
</tr>
<tr>
<td><strong>Personal Protective Equipment (PPE)</strong> Staff must wear:</td>
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<tr>
<td>• A disposable yellow apron, gloves and an FFP3 mask for all direct care, including aerosol generating procedures.</td>
</tr>
<tr>
<td>• Where there is a risk of splashing of blood/body fluids to the face, eye protection must be used.</td>
</tr>
<tr>
<td><strong>Precautions required until</strong> Transmission Based Precautions are required until 4 days after the onset of the rash. (Rash onset day is counted as Day Zero)</td>
</tr>
<tr>
<td><strong>Screening staff</strong> Because of the 7-18 day incubation period, there is no reason for immediate absence from work. Pregnant staff or staff who have been exposed and are unsure about their immune status should contact OHS or their GP for advice as soon as possible.</td>
</tr>
<tr>
<td><strong>Specimens required</strong> Throat swab in viral medium</td>
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<tr>
<td><strong>Terminal Cleaning of Room</strong> For terminal clean of the isolation when patient is no longer infected or is discharged please see: <a href="#">SOP Terminal Cleaning of Isolation Rooms</a>.</td>
</tr>
<tr>
<td><strong>Visitors</strong> Clinical staff should explain the risk of Measles exposure to visitors. A history of measles or 2 doses of MMR immunisation is considered evidence of immunity. Advise only those visitors with previous exposure to the patient while infectious, should be allowed to visit as long as they themselves are not infectious. Close contacts of the patient who are not immune could potentially be incubating the infection and should be advised against visiting. Contact the IPC for advice.</td>
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</tbody>
</table>

The most up-to-date version of this SOP can be viewed at the following website: [http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/](http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/)
4. Evidence Base


Health Protection Network: Guideline for the Control of Measles Incidents and Outbreaks in Scotland (2018)
https://www.hps.scot.nhs.uk/resourcedocument.aspx?id=6826


Available from http://www.nipcm.scot.nhs.uk/about-the-manual/