Measles, Rubella, Congenital Rubella Syndrome (CRS) elimination initiative - Sri Lanka

Measles is a highly infectious viral disease responsible for a high degree of morbidity and mortality among children including complications of pneumonia (1-6%), diarrhoea (8%), Otitis Media (7-9%), subacute sclerosing panencephalitis (SSPE) (1 per 100,000 cases), Keratitis and Corneal scarring are common with Vitamine A deficiency.

Fatal cases of measles are now rarely reported in Sri Lanka after successful implementation of the National Immunization Programme, including 2 doses of measles, mumps and rubella (MMR) vaccination at 9 months and 3 years of age.

The measles vaccine was first introduced into the National Immunization Programme in Sri Lanka in 1984. Since then, morbidity and mortality of measles were reduced remarkably but outbreaks have been experienced in 1999-2000 and 2013-2015. Considering the requirement to enhance the population level immunity, 2nd dose of measles containing vaccine has been introduced with the measles, rubella (MR) vaccine in 2001. In 2011, MMR vaccine was introduced in 2 doses at the age of 1 year and at the age of 3 years, replacing measles (9 months) and MR (3 years) vaccines. But, considering the morbidity patterns and sero survey evidence during the measles outbreak situation in 2013-2015, the Advisory Committee on Communicable Diseases (ACCD) has decided to re-schedule the MMR 1st dose at 9 months of age, continuing the 2nd dose at 3 years.
Rubella is a mild disease affecting children and adults. However, rubella in pregnant women is important as the virus is transmitted to the foetus across the placental barrier, sometimes with significant teratogenic effects. Rubella vaccine was introduced into the National Immunization Programme in 1996, targeting all reproductive age females of 11-44 years, with the objective of preventing congenital rubella syndrome (CRS). This was carried out as a school based programme by giving rubella vaccine to all children aged 11-15 years, and vaccinating the rest at the community clinics. Number of measles and CRS cases have markedly reduced and surveillance of measles, rubella and CRS was strengthened in 2005-2010 under the plan of intensification of the surveillance and Laboratory confirmation was made available for all suspected cases of Measles, Rubella and CRS from there to date.

Acceleration of measles, rubella, CRS Elimination Plan 2017-2020

In par with the Regional Measles, Rubella and CRS elimination strategic plans, Sri Lanka has set the goal of elimination of Measles, Rubella, CRS by 2020.

**Vision:** Sri Lanka is free from measles, rubella and CRS

**Goal:** To achieve and sustain measles, rubella and CRS free status in Sri Lanka

**Objectives:** To achieve and maintain zero endogenous transmission of measles, rubella and CRS in Sri Lanka and identify and contain possible imported outbreaks

**Elimination targets:**
- Zero endogenous measles cases by 2020
- Zero endogenous rubella cases by 2020
- Zero CRS case/100,000 live births by 2018

**Components of elimination strategies:**
- Achieve and maintain high levels of population immunity by providing two doses of measles and rubella containing vaccines with high vaccination coverage
- Strengthened disease surveillance including laboratory confirmation of all suspected cases of measles, rubella, CRS cases: case based investigation
- Strengthen country preparedness for outbreak prevention and response: contain outbreaks early
- Adequate patient care management to prevent the transmission and mortality
- Perform research to generate evidence for cost effective implementation strategies for measles, rubella, CRS elimination

**Measles and Rubella vaccination**

- All eligible children who have completed the age of 9 months and the age of 3 years are to be vaccinated with MMR vaccine according to the current National Immunization schedule in Sri Lanka
• Required to achieve and maintain above 95% coverage in each of the two doses of MMR vaccine at the national, district and Medical Officer of Health (MOH) and Public Health Midwife (PHM) area levels
• If any child is found unvaccinated / missed for measles or rubella at any age, vaccinate with two doses of MMR with minimum of 6-8 weeks interval
• Ensure all women in the reproductive age are protected with at least one rubella containing vaccine (RCV)
• Ensure that that all women are protected/vaccinated for rubella at the time the Public Health Midwife (PHM) includes them in the Eligible Couple Register or at the earliest contact
• If any pregnant woman is found unvaccinated or with doubtful vaccination against rubella (and if the family has not been completed) she should be vaccinated with RVC after delivery, to prevent a future CRS case
• Once MMR (10 dose) vial is planned to open in the scheduled immunization clinic session and if the number of children planned for the day is less than the number in the opened vials for the day, plan and take necessary measures to vaccinate adults (up to 45 year) who are without proper history of measles and rubella vaccination using the remaining MMR doses for the day without discarding (after screen for contraindications and AEFI)

Surveillance Case definitions

• Surveillance case definition of measles and rubella

Any person with "Fever and Maculopapular (i.e. non vesicular) rash" should be notified as either suspected measles or rubella case based on the clinical judgment of the treating clinicians / health care personnel

• Surveillance case definition of CRS

Any infant with: maternal history of Rubella infection and / or with signs and symptoms from following categories
• cataract, congenital glaucoma, pigmentary retinopathy, congenital heart disease (PDA/peripheral pulmonary artery stenosis/VSD), Loss of hearing
• Purpura, splenomegaly, microcephaly, mental retardation, meningo-encephalitis, radiolucent bone disease, jaundice (within 24 hours of delivery)
• Laboratory data consistent with Congenital Rubella Infection (Rubella IgM positive or Rubella virus isolated)
Measles, Rubella, CRS case reporting

All suspected “measles and rubella” patients with “fever and maculopapular rash” should be notified by all medical officers who are treating the patient at first contact of the patient.

All other health care staff including field health staff, who meet with a patient of “fever and maculopapular rash” are required to inform to the immediate contact health authority for proper notification.

All hospitals where specialist paediatricians and/or physicians are available, are sentinel site hospitals for active surveillance for Measles/Rubella/CRS and weekly zero reporting.

- All suspected Measles and Rubella patients should be notified to the Epidemiology Unit through the updated ‘Suspected Measles / Rubella Patient Information Form’ (EPID/151/2/2015, Blue Form) [Annexure 1], filled by the Clinician/Medical Officer who is treating the patient at first patient contact.

- The routine notification should to be sent to the Medical Officer of Health (MOH) of the patient’s residential area (Notification of Communicable Diseases: Health-544, Annexure 2) for all suspected cases of Measles, Rubella, CRS

- All suspected CRS cases need to be reported to the Epidemiology Unit immediately by phone/fax/e-mail and special investigation form (EPID/DS/CRS/2013) [Annexure 3] is required to be properly completed by the clinician/medical officer who is treating the patient at the health institution and to be sent to the Epidemiology Unit.

- All infection control nursing officers (ICNO) at the sentinel site hospitals are expected to maintain Measles/Rubella and CRS registers (Format: Annexure 4 and 5). The infection control nurses are also expected to visit medical, paediatric, obstetric, cardiology, ophthalmology and ENT wards regularly for detection of cases (all Measles, Rubella, CRS), actively look for cases and notify promptly to the Epidemiology Unit.

- All suspected cases of Measles, Rubella/CRS presented to sentinel site hospitals should be included in the Weekly reporting form for AFP. Measles, Rubella cases from hospital (sentinel sites) – EPID/37/5/R2004 (Annexure 6) [or in the web based system which will be trained during the year], and should be completed for the week ending date of Friday and should be sent to the Chief Epidemiologist, Epidemiology Unit, Colombo with copy to the Regional Epidemiologist. This form should be sent even if no cases have been detected (“Nil” reporting) for the week. A total of 52 reports should be received from each site per year and the timeliness of the return needs to be maintained at 7 days to be received at the Epidemiology Unit. The performance rate of completeness and the timeliness of the return will be measured to maintain the surveillance performance.

- The patients identified in other health institutions including General Practitioners and private health care institutions, are required to be promptly notified to the relevant MOH (Notification of Communicable Disease, [Health 544] form or any other means of notification) and the laboratory confirmation should be carried out as instructed.

- The Medical Officer of Health of the Patients residence (in an institutional outbreak, the MOH of the institution belonged) has to proceed with the routine surveillance procedure, contact tracing and outbreak prevention for all notified or community detected Measles, Rubella, CRS cases and complete the special field investigation form for all clinically confirmed measles or rubella cases (irrespective of the laboratory confirmation or the availability of results.
<table>
<thead>
<tr>
<th>Clinically confirmed measles case</th>
<th>Clinically confirmed rubella case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever and maculopapular rash patient with at least one of the following: • Cough • Coryza (i.e. runny nose) • Conjunctivitis (i.e. red eyes)</td>
<td>Fever with maculopapular rash and arthralgia, arthritis, lymphadenopathy (usually suboccipital/ postauricular/ cervical) or conjunctivitis</td>
</tr>
</tbody>
</table>

- All clinically confirmed cases of Measles, Rubella and suspected CRS need to be completed with updated special investigation forms by the MOH ([EPID/DS/MEASLES/2007], [EPID/DS/RUBELLA.2007], [EPID/DS/CRS/2013]) (Annexure 7, 8 & 3) and duly completed forms should be sent to the Epidemiology unit as early as possible, maximum with 2 weeks delay from the date of the notification.

- If the notified/clinically confirmed measles/rubella case has not been tested for laboratory confirmation due to any reason by the health institution, the MOH should perform the laboratory testing at the time of special field investigation as per instructions in the Epidemiology Unit letter No: EPID/151/2011 dated 20/09/2012.

- All Measles/Rubella cases detected at the community level by any of the public health staff need to be adequately investigated, in accordance with the routine surveillance and special investigation procedure, with laboratory testing procedure to complete case based investigation by the MOH.

**Laboratory investigations for suspected Measles/Rubella and CRS cases**

- Two types of samples should be collected from all suspected measles and rubella cases

<table>
<thead>
<tr>
<th>Sample for Virus isolation</th>
<th>Sample for detection of IgM (recent infection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal and throat swabs (in virus transport medium) preferably in the first 5 days of the onset of rash</td>
<td>2-3 ml blood sample preferably from 3rd to 28th day of the onset of rash</td>
</tr>
</tbody>
</table>

- A blood sample of 2-3ml for Measles /Rubella IgM should be collected from each suspected case of Measles, or Rubella from the 3rd day to 28th day of the onset of signs and symptoms, into a sterile, dry, screw capped container without any anti coagulant.

- A blood sample for Rubella IgM or for TORCH screen (as for Toxoplasma, Rubella, Cytomegalovirus, Herpes simplex virus in screening for congenital abnormalities) should be taken from all suspected infants of CRS and from newborns in instances where the mother has declared a history of suspected/confirmed Rubella infection in any gestational age of pregnancy.

- If any pregnant woman who does not give a history of Rubella vaccination is identified in any Obstetric Unit, she is required to be tested for Rubella IgM (before or after delivery) to identify possible recent Rubella infection during gestational period. In case a positive result is obtained, the baby is required to be investigated on delivery and followed up for possible CRS.
- Once the blood sample has been collected, it should be labeled and left at room temperature for about 30 minutes for clot formation. The sample should be sent as early as possible to the Measles and Rubella, National Reference Laboratory, Medical Research Institute (MRI), Colombo with a properly completed specimen request form (Annexure 9: "Specimen Request Form: Measles and Rubella, National Reference Laboratory, Medical Research Institute (MRI), Colombo). The sample should be transported in a cold box with ice cubes / ice packs to maintain cold temperature.

- If a facility to centrifuge is available, properly labelled separated serum should be sent to the MRI for Measles or Rubella IgM detection.

- The serum / clotted blood sample should be received at the laboratory within 48 hours of collection and if there is any delay of transport more than 6 hours the sample should be refrigerated until dispatch to prevent destruction of antibodies.

- Naso-pharyngeal aspirate, throat swab or gingival swab is collected within the first 5 days of the onset of symptoms for measles / rubella virus detection. Samples should be collected in to the container with virus transport medium (VTM) and labelled. Samples should be stored immediately at the refrigerator and transport in ice to maintain cold temperature with the completed specimen request form (annexure 9). Specimen collection containers (VTM + swabs) are provided. Contact infection control nursing officer (ICNO) of the hospital or Regional Epidemiologist of the district.

**Measles, rubella outbreak response:**

- Routine surveillance for outbreak detection and prevention after notification (initial Public health Inspector visit, field level investigation with Health H- 411 / H-411a, and MOH case based special form investigation including laboratory confirmation should be completed within 14 days of the onset of the rash)

- Even a single laboratory confirmed measles, or rubella case is detected, it should be considered as an outbreak and following measures should be taken
  - Immediate notification to the Epidemiology Unit/ National focal point for Measles Rubella Elimination Programme(Epidemiology Unit )/RDHS/ Provincial CCP/ Regional Epidemiologist
  - If any unvaccinated/ unprotected child (2 doses of MMR or adult (up to 45 years) in the household, take measures to provide MMR vaccination at earliest possible, preferably within 14-21 days of the onset of the index laboratory confirmed case
  - Screen 30-50 households or households of 1 km radius around the index household, to identify any unvaccinated children below 15 years: take measures to vaccinate if any
  - Exclusion of the continuation of the outbreak:
    - Follow up contacts for 2 incubation period cycles (minimum of 28 days)
    - identify all “fever and maculopapular rash” cases from the area and send samples for laboratory testing (include into the surveillance system)
  - Inform to Epidemiology Unit the action taken
Additional information

- Unprotected travellers to measles or rubella (with unknown history or unvaccinated for measles and not contracted measles or rubella disease).
  - travelling to an endemic country for any of these diseases, are advised to vaccinate/receive at least one MMR dose, with a minimum of 1 month before the travel date, from the nearest MOH office
  - any unprotected traveller, returning from an endemic country, develops fever and rash within 14 to 21 days of the return should be considered as a possible imported case of measles or rubella and should be adequately investigated, to prevent community transmission

- Measles, Rubella vaccination and surveillance activities in disaster situations should be paid special attention, and should continue with routine immunization. Contact Measles, Rubella, CRS elimination programme at the Epidemiology Unit, Consultant CCP, Regional Epidemiologist, or the area MOH to assess the situation, and advise and actions for special vaccination campaigns and prevention of possible outbreaks

- Measles / Rubella outbreak prevention and response, specimen collection guidelines (including field level)[ as per Epidemiology Unit letter No: EPID/151/2011 dated 20/09/2012], standard operation procedure (SOP) for specimen collection and transport, Accelerated measles, rubella, CRS elimination plan 2017-2020 are available in the website : http://www.epid.gov.lk, under disease information, Measles, Rubella, CRS elimination programme

- Additional information contact: Measles, Rubella, CRS Elimination Programme, Epidemiology Unit, No: 231, De Saram Place, Colombo 10, chepid@slinet.lk, Tel:0112695112, fax: 0112696583

Please bring the contents of this circular to the notice of all relevant staff at your institution/district/province and arrange to implement the programme accordingly.

Dr. J.M.W. Jayasundara Bandara
Director General of Health Services
Ministry of Health

Copy:
- Secretary Health
- DDG/PHS I
- DDG/PHS II
- DDG/MS I and II
- DDG/Laboratory Services
- Chief Epidemiologist
- Director/ Private Healthcare Institutions
- Director/ MCH
- Director/FHB
- Director/NIHS
- Directors /Military hospitals
**Epidemiology Unit - Ministry of Health**

**Measles / Rubella Elimination Initiative**

**Suspected Measles / Rubella Patient Information**

---

**Please Mark:**
- Measles [ ]
- Rubella [ ]

**For Office use only:**
- Mea/Rub ID Code: SRL/____/____/____/____

To be filled in by the Medical Officer treating the case, on suspicion of the diagnosis and sent to the EPIDEMIOLOGY UNIT, 231, DE SARAM PLACE, COLOMBO 10 (Fax: 2696583, email: chep@sitnet.lk, epidunit@sitnet.lk at your earliest)

### Name of Hospital

<table>
<thead>
<tr>
<th>Inward Patient</th>
<th>Ward No.</th>
<th>BHT No.</th>
<th>Date of Admission</th>
<th>OPD Patient</th>
<th>OPD No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Particulars of the Patient

- **Name**: 
- **Address**: 
- **Telephone No.**: 
- **MOH Area**: 
- **District**: 
- **Date of Birth**: 
- **Age**: 
- **Sex**: Male [ ] Female [ ]

### Clinical History

- **Date of onset of fever**: Year __________ Month ______ Date ______
- **Date of onset of rash**: Year __________ Month ______ Date ______

- **Cough**: [ ]
- **Coryza**: [ ]
- **Conjunctivitis**: [ ]

- **Lymphadenopathy**: [ ] (sub occipital / post auricular / cervical)

- **Other (specify)**: 

### Specimen Collection

- **Serology** [ ]
- **Virus Isolation** [ ]

### Specimen Details

<table>
<thead>
<tr>
<th>Date of Collection of Blood (IgM)</th>
<th>Date of Dispatch to MRI</th>
<th>Date of Collection of Swabs (Nasal/Throat swabs for Virus Isolation)</th>
<th>Date of Dispatch to MRI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

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**Name of the Medical Officer**

**Designation**

**Date**

**Signature**

---

*Note: Notification of Communicable Disease - Health 544, needs to be sent to the relevant Medical Officer of Health*
<table>
<thead>
<tr>
<th><strong>NOTIFICATION OF A COMMUNICABLE DISEASE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institute</strong> ................................</td>
</tr>
<tr>
<td><strong>Name of Patient</strong> .........................</td>
</tr>
<tr>
<td><strong>Date of admission</strong> ......................</td>
</tr>
<tr>
<td><strong>B.H.T. No.</strong> ................................</td>
</tr>
<tr>
<td><strong>Age</strong> ......................................</td>
</tr>
<tr>
<td><strong>Laboratory Results (If available)</strong> ......</td>
</tr>
<tr>
<td><strong>Home address of Patient</strong> (To trace the patient's residence by the Public Health Inspector)</td>
</tr>
<tr>
<td><strong>Patient's Home Telephone No.</strong> ..........</td>
</tr>
<tr>
<td><strong>Signature of Notifier</strong> ...................</td>
</tr>
</tbody>
</table>

Please see overleaf for the list of Notifiable Diseases.
# List of Notifiable Diseases

(Approved by the Advisory Committee on Communicable Diseases on 11th February 2005)

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholera</td>
<td>Acute Poliomyelitis / Acute Flaccid Paralysis</td>
</tr>
<tr>
<td>Plague</td>
<td>Chicken pox</td>
</tr>
<tr>
<td>Yellow Fever</td>
<td>Dengue / Dengue Haemorrhagic Fever</td>
</tr>
<tr>
<td></td>
<td>Diphtheria</td>
</tr>
<tr>
<td></td>
<td>Dysentery</td>
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<tr>
<td></td>
<td>Encephalitis</td>
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<tr>
<td></td>
<td>Enteric Fever</td>
</tr>
<tr>
<td></td>
<td>Food poisoning</td>
</tr>
<tr>
<td></td>
<td>Human Rabies</td>
</tr>
<tr>
<td></td>
<td>Leprosy</td>
</tr>
<tr>
<td></td>
<td>Measles</td>
</tr>
<tr>
<td></td>
<td>Meningitis</td>
</tr>
<tr>
<td></td>
<td>Mumps</td>
</tr>
<tr>
<td></td>
<td>Rubella / Congenital Rubella Syndrome</td>
</tr>
<tr>
<td></td>
<td>Simple Continued Fever of over 7 days or more</td>
</tr>
<tr>
<td></td>
<td>Tetanus</td>
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<tr>
<td></td>
<td>Neonatal Tetanus</td>
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<tr>
<td></td>
<td>Typhus Fever</td>
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<tr>
<td></td>
<td>Viral Hepatitis</td>
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<tr>
<td></td>
<td>Whooping Cough</td>
</tr>
<tr>
<td></td>
<td>Tuberculosis</td>
</tr>
<tr>
<td></td>
<td>Leishmaniasis</td>
</tr>
<tr>
<td></td>
<td>Leprosy</td>
</tr>
</tbody>
</table>

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**THE MEDICAL OFFICER OF HEALTH**

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Please Fold Here
SURVEILLANCE OF CONGENITAL RUBELLA SYNDROME (CRS) - CASE INVESTIGATION FORM

EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH

The Medical Officer/Hospital and REE/MOH should carry out the investigation personally. Necessary data should be obtained from the mother of the new baby/BHT/Physician/investigation reporter/diagnosis cards. Early investigation and return is essential.

A. GENERAL
1. Date of notification to MOH: [ ] [ ] [ ] / [ ] [ ] [ ] (dd/mm/yy)
2. Date of notification to Epidemiology Unit: [ ] [ ] [ ] / [ ] [ ] [ ] (dd/mm/yy)
3. Name of the reporting Institution/Hospital: ______________________________________
4. Ward No: __________________________
5. BHT No: ___________________________
6. Name of the hospital where the baby was born: _________________________________
7. Ward No: __________________________
8. BHT No: ___________________________

B. PARTICULARS OF PATIENT (Please (✓) appropriate box where applicable)
9. Name of patient (BLOCK LETTERS) ___________________________________________
10. Name of the parent/guardian: _________________________________________________
11. Residential Address: _________________________________________________________
12. Date of Birth: [ ] [ ] [ ] / [ ] [ ] [ ] (dd/mm/yy)

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Ethnic Group</th>
<th>Mother's Occupation</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Yrs</td>
<td>[ ] Months</td>
<td>[ ] Days</td>
<td>[ ] Male</td>
<td>[ ] Female</td>
</tr>
</tbody>
</table>

13. Ethnic group
14. Sex

15. Ethnic group
16. Mother's occupation
17. District

18. MOH area

B. PRESENT ILLNESS/OUTCOME
19. Date of detection of signs and symptoms of CRS: [ ] [ ] [ ] [ ] [ ] [ ] (dd/mm/yyyy)

20. Where did the patient detect first:
   [ ] 1. Government hospital
   [ ] 2. Private hospital
   [ ] 3. Medical Officer of Health
   [ ] 4. Private practitioner
   [ ] 5. Ayurvedic institution
   [ ] 6. Other (specify)

21. Outcome of the event
   [ ] 1. Still under treatment
   [ ] 2. Died
   [ ] 3. Transferred
   [ ] 4. Discharged

22. Date of discharge, transfer or death
   (where relevant)
   [ ] [ ] [ ] [ ] [ ] (dd/mm/yyyy)

23. If transferred, name of hospital __________________________

24. Was patient transferred from some other hospital
   [ ] Yes | [ ] No

25. If "Yes", where was the patient transferred from?

C. CLINICAL DATA
Surveillance Case definition: Child < 1 year of age with maternal history of Rubella infection and/or following signs and symptoms.

<table>
<thead>
<tr>
<th>List A</th>
<th>List B</th>
<th>Laboratory data consistent with Congenital Rubella Infection (CRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cataract/s</td>
<td>1. Purpura</td>
<td>[ ] positive result of rubella IgM</td>
</tr>
<tr>
<td>2. Congenital glaucoma</td>
<td>2. Splenomegaly</td>
<td></td>
</tr>
<tr>
<td>4. Loss of hearing</td>
<td>4. Mental Retardation</td>
<td></td>
</tr>
<tr>
<td>5. Pigmentary Retinopathy</td>
<td>5. Meningo-encephalitis</td>
<td></td>
</tr>
<tr>
<td>6. Retinitis</td>
<td>6. Oligoplasia</td>
<td></td>
</tr>
<tr>
<td>7. Retinitis</td>
<td>7. Jaundice</td>
<td></td>
</tr>
<tr>
<td>8. Retinitis</td>
<td>(within 24hr of delivery)</td>
<td></td>
</tr>
</tbody>
</table>

For office use only
Compatible with the case definition:
1. Yes
2. No
### D. LABORATORY FINDINGS

26. Was blood taken for serological investigations?  
   - 1. yes  
   - 2. no  
   - If no reason

27. Was specimens collected for virus isolation?  
   - 1. yes  
   - 2. no  
   - If no reason

28. If yes:

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Date of collection of specimen (dd/mm/yy)</th>
<th>Laboratory MFR/ other govt./ private/ not known</th>
<th>Results (mark NA if test results are not available and PP if pending)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. maternal IgG persisting &gt;6 months in infant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. rubella specific IgM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. virus isolation / PCR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### E. MATERNAL HISTORY

29. Age of mother at time of delivery:  
   - □ □ years

30. Did the mother have a rubella-like illness during the present pregnancy?  
   - □ 1. yes  
   - □ 2. no  
   - □ 3. not known

31. If yes, period of gestation at the time of illness:  
   - □ in weeks  
   - □ not known

32. Which of the following symptoms and signs were present?  
   - □ 1. fever  
   - □ 2. rash  
   - □ 3. lymphadenopathy  
   - □ 4. conjunctivitis  
   - □ 5. arthritis/arthritis  
   - □ 6. others (specify)

33. Was rubella serologically confirmed during pregnancy?  
   - □ 1. yes  
   - □ 2. no  
   - □ 3. not known

### F. MOTHER'S IMMUNIZATION HISTORY

34. Was the mother immunized for rubella?  
   - □ 1. yes  
   - □ 2. no  
   - □ 3. not known

35. If yes, date of vaccination:  
   - □ d □ □ □ □ □ □

36. Type of vaccine used:  
   - □ 1. Rubella  
   - □ 2. MMR  
   - □ 3. others (specify)

37. Place of vaccination:  
   - □ 1. MOH clinic  
   - □ 2. school  
   - □ 3. government hospital  
   - □ 4. private dispensary/surgery  
   - □ 5. private hospital  
   - □ 6. other (specify)

38. If not immunized, reason:  
   - □ 1. medical contraindication  
   - □ 2. unaware of the need for vaccination  
   - □ 3. non-availability of vaccine  
   - □ 4. no faith in the vaccine  
   - □ 5. others (specify)

### G. CONTACT HISTORY

39. Was the mother in contact with a known or suspected case of rubella during the index pregnancy?  
   - □ 1. yes  
   - □ 2. no  
   - □ 3. not known

40. If yes, period of gestation in weeks:  
   - □ □

### FOR OFFICE USE

Time between immunization and development of maternal infection:  
   - □ □ yrs □ □ months

---

Signature: .................................................  

Date: ..................................................  

Name: ..................................................  

Designation: ...........................................

---

Final classification:  
   - Laboratory confirmed  
   - Clinically confirmed  
   - CRI

---

Please return to: Epidemiology Unit, 231, De Seram Place, Colombo 10. email: epidunit@slinet.lk  
Tel: 011-2695112 / 2681548 Fax: 011-2696583
<table>
<thead>
<tr>
<th>Virus isolation</th>
<th>Blood for IgM</th>
<th>To MOH (H-544)</th>
<th>To Epid Unit (H501/2013)</th>
<th>Residential address</th>
<th>Date of onset (rash)</th>
<th>Date of admission</th>
<th>Date of admission</th>
<th>Number</th>
<th>OPD</th>
<th>Ward</th>
<th>Sex</th>
<th>Age</th>
<th>DOB</th>
<th>Disease</th>
<th>Name of the Patient</th>
<th>Measles / Rubella Register Format</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

*Measles / Rubella Register Format*
<table>
<thead>
<tr>
<th>Serial Number (Annual number)</th>
<th>Name of the Patient &amp; mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the patient's mother</td>
<td>Age at detection &amp; DOB</td>
</tr>
<tr>
<td>Sex &amp; Ward/Unit</td>
<td>BHT</td>
</tr>
<tr>
<td>Date of admission</td>
<td>Date of detection</td>
</tr>
<tr>
<td>Mother's vaccination status Rubella (Y/N)</td>
<td>Residential address</td>
</tr>
<tr>
<td>To MOH (H 544)</td>
<td>Date of notification</td>
</tr>
<tr>
<td>To Epid Unit (EPID/DS/CRS/2013)</td>
<td>Specimen collection for confirmation (date &amp; result)</td>
</tr>
<tr>
<td>Blood for IgM</td>
<td>Virus isolation swabs</td>
</tr>
</tbody>
</table>

2013
WEEKLY REPORTING FORM FOR AFP*, MEASLES, RUBELLA/CRS CASES FROM HOSPITALS
(SENTINEL SITES)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Name of the patient</th>
<th>Age</th>
<th>Sex</th>
<th>Ward</th>
<th>B.H.T. No.</th>
<th>** D.O.A</th>
<th>Date of onset</th>
<th>Residential address</th>
</tr>
</thead>
</table>

Name: .............. Designation: .............. Signature: .............. Date: ..............

*AFP – Acute Flaccid Paralysis
** D.O.A – Date of admission

This form should be completed for all cases of AFP, MEASLES, and RUBELLA/CRS after visiting medical, paediatric, EYE, ENT and neurology wards during the week. Even if no cases have been detected, please forward this return every Friday to Epidemiologist, Epidemiological Unit, 231, de Saram Place, Colombo 01000 with a copy to Regional Epidemiologist, Tel: 2695112, 2681548, Fax: 2696583, E-mail: epidunit@slinet.lk / chepld@slinet.lk by Head of the institution/ICN PHI or any other identified officer.
SURVEILLANCE OF MEASLES – CASE INVESTIGATION FORM
EPIDEMIOLOGY UNIT MINISTRY OF HEALTH

The MOH should do the investigation personally. Necessary data should be obtained from the hospital by reference to the BHT/Physician or from the diagnosis card. Early investigation and return is essential.

<table>
<thead>
<tr>
<th>Week ending of Notification</th>
<th>Date of Confirmation</th>
<th>ID Register No: Meas</th>
</tr>
</thead>
</table>

A. PARTICULARS OF PATIENT (Please ✓ appropriate box where applicable)

1. Name of patient (BLOCK LETTERS) .................................................................
2. Residential Address: ....................................................................................
3. Contact Number: .........................................................................................
4. Date of Birth: dd/mm/yy (dd/mm/yyyy)
5. Sex
   - 1. Male
   - 2. Female
6. Ethnic group
   - 1. Sinhalese
   - 2. Tamil
   - 3. Moor
   - 4. Others
   - 9. Unknown
7. Occupation ......................................................................................................
8. RDHS area .....................................................................................................
9. MOH area ......................................................................................................

B. PRESENT ILLNESS/OUTCOME

10. (a) Date of onset of fever
    - dd/mm/yyyy
11. (a) Did the patient seek medical advice? 1. Yes ☐ 2. No ☐

(b) Date of onset of rash
    - dd/mm/yyyy

12. Was patient admitted to hospital? 1. Yes ☐ (If "Yes" question 13)
   - 2. No ☐ (If "No" skip to question 17)

13. If yes, date of admission: dd/mm/yyyy

14. Name of hospital: ...........................................................................................
15. Ward: ............................................................................................................
16. BHT No: .........................

17. Outcome of the case
   - 1. Cured
   - 2. Died
   - 3. Complication

18. Date of discharge, transfer or death
    - dd/mm/yyyy
19. If transferred name of hospital .................................................................
20. Was patient transferred from some other hospital
    - 1. Yes ☐
    - 2. No ☐
21. If "Yes", where was the patient transferred from?

C. CLINICAL DATA

Case definition: fever and maculopapular rash with one of cough, coryza (runny nose) or conjunctivitis

22. Symptoms and signs
    - 1. fever
    - 2. maculopapular rash
    - 3. cough
    - 4. coryza
    - 5. conjunctivitis
    - 6. other (Specify) ......................................................................................

23. Complications
    - 1. none
    - 2. diarrhoea
    - 3. pneumonia
    - 4. otitis media
    - 5. encephalitis
    - 6. other (specify) ......................................................................................

D. LABORATORY FINDINGS

24. Was blood taken for measles serology (measles IgM)? 1. Yes ☐ 2. No ☐
   (a) If yes: 1. Hospital ☐ 2. Private Practitioner ☐ 3. MOH ☐ 4. Other ☐

(b) Investigation (Serology) e.g. IgM / IgG
<table>
<thead>
<tr>
<th>Date of collection of specimen (dd/mm/yyyy)</th>
<th>Date of sent to laboratory</th>
<th>Laboratory (MRI/govt/private)</th>
<th>Results (mark NA if test results are not available)</th>
<th>Date of results</th>
</tr>
</thead>
</table>

Annexure 7
25. Was samples collected for virus isolation 
   1. Yes ☐ 2. No ☐

   If yes:

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Date of collection</th>
<th>Date of sent</th>
<th>Name of the laboratory</th>
<th>Date of result</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>+ve</td>
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<td>-ve</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td>Geno type</td>
</tr>
</tbody>
</table>

   (i) swabs (throat/nasal/gingival)
   (ii) secretion (nasal/oral)
   (iii) urine
   (iv) other

E. MEASLES VACCINATION STATUS

26. Was measles containing vaccine given (MCV) [Measles, MR, MMR]
   1. Yes ☐ 2. No ☐ 3. Not known ☐

27. If "yes"
   (a) Number of doses
       1 ☐ 2 ☐ >2 ☐

   (b) Source of information
       Vaccination card ☐

   History: ☐

   Details of immunization

<table>
<thead>
<tr>
<th>Dose</th>
<th>Date of immunization (dd/mm/yy)</th>
<th>Type of vaccine</th>
<th>Batch number</th>
<th>Place of immunization*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td></td>
<td>Measles, MR, MMR</td>
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<tr>
<td>2nd</td>
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<tr>
<td>Other</td>
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</tr>
</tbody>
</table>

   *MOH office / Immunization clinic / Govt. Hospital / Private Hospital / General Practitioner / Not known / Other

F. CONTACT HISTORY

28. Has the patient been in contact with anyone with fever and/or rash within 3 weeks prior to onset of illness?
   1. Yes ☐ 2. No ☐ 3. Not known ☐

   (If yes, fill row 1 – 3 with details)

   Details of the patient's household or other close contacts who developed a similar illness following the development of measles in the patient, and their immunization status (fill Row 4 – 7 with details)

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Date of onset of rash</th>
<th>Relationship to patient</th>
<th>Vaccinated for MCV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Yes ☐ No ☐ Not known</td>
</tr>
<tr>
<td>28a. contacts with a similar disease prior to onset of illness in the patient</td>
<td>1</td>
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<tr>
<td>28b. contacts who developed similar illness after contact of the index patient</td>
<td>2</td>
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<td>7</td>
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</tbody>
</table>

29. Is the patient having a history of travel abroad (3 weeks prior to illness onset)? ☐ Yes ☐ No

   If yes:
   (i) Country of travel: .................................................................
   (ii) History of measles contact in abroad ☐ Yes ☐ No ☐ Not known

   Remarks
   …………………………………………………………………………………………….
   …………………………………………………………………………………………….

   Signature: ……………………… Name: ………………………
   Date: ……………………… Designation: ………………………

Please return to:
Epidemiologist, Epidemiology Unit, 231, De Saram Place, Colombo 10
email: epidunit@slinet.lk  Tel: 011-2595112 / 2681548  Fax: 011-2696533
SURVEILLANCE OF RUBELLA – CASE INVESTIGATION FORM
EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH

The MOH should do the investigation personally. Necessary data should be obtained from the hospital by reference to the BHT/Physician or from the diagnosis card. Early investigation and return are essential.

<table>
<thead>
<tr>
<th>Week ending of notification</th>
<th>Serial no.</th>
<th>Please write the Serial No given in the Infectious Disease Register (ID Register) in the MOH office</th>
</tr>
</thead>
</table>

A. PARTICULARS OF PATIENT (Please tick (√) the appropriate box where applicable)

1. Name of patient (BLOCK LETTERS) .................................................................
2. Residential address: .........................................................................................
3. Date of birth: □□/□□/□□ (dd/mm/yyyy)

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Ethnic group</th>
<th>Occupation</th>
<th>DPDHS division (district)</th>
<th>MOH area</th>
</tr>
</thead>
<tbody>
<tr>
<td>□□/□□</td>
<td>□1. male □2. female □3. not known</td>
<td>□1. Sinhalese □2. Tamil □3. Moor □4. others □5. not known</td>
<td>FOR OFFICE USE ONLY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. PRESENT ILLNESS/OUTCOME

10. Date of onset of symptoms: □□/□□/□□/□□/□□
11. Where did the patient first seek medical advice?
   □1. government hospital □2. private hospital □3. private practitioner □4. Ayurvedic institution (public/private) □5. other (specify)
12. Was patient admitted to hospital?
   □1. yes □2. no □3. not known
13. If yes, date of admission: □□/□□/□□/□□/□□
14. Name of hospital: .........................................................................................
15. Ward: ..................
16. BHT no: ..................
17. Date of discharge/transfer or death: □□/□□/□□/□□/□□
18. If transferred, name of hospital: .................................................................
19. Was patient transferred from other hospital?
   □1. yes □2. no
20. If "yes", where was the patient transferred from? ........................................
21. Outcome of the case
   □1. cured □2. died □3. transferred □4. not known

C. CLINICAL DATA

Case definition: An illness with generalized macular papular rash, fever and arthralgia/arthritis, lymphadenopathy or conjunctivitis

22. Symptoms and signs
   □1. fever □2. rash □3. lymphadenopathy □4. conjunctivitis □5. arthritis/arthralgia □6. other (specify): .................................................................

23. Complications
   □1. encephalitis □2. other (specify): .................................................................

For office use only
Compatible with the case definition:
□1. Yes □2. No
D. LABORATORY FINDINGS

24. Was blood taken for measles serology? □ 1. yes □ 2. no □ 3. not known

25. If yes,

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Date of collection of specimen (dd/mm/yy)</th>
<th>Laboratory (MRI/ other govt./ private/ not known)</th>
<th>Results (mark NA if test results are not available and PP if pending)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IgG 1st specimen</td>
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<tr>
<td>2. IgG 2nd specimen</td>
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<tr>
<td>3. IgM</td>
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<tr>
<td>4. Virus isolation</td>
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</tbody>
</table>

E. RUBELLA VACCINATION STATUS

26. Was rubella/MMR/MP vaccine given before the onset of the present illness?
□ 1. yes □ 2. no □ 3. not known

27. If yes, details of immunization:

<table>
<thead>
<tr>
<th>Dose</th>
<th>Date of immunization* (dd/mm/yy)</th>
<th>Type of vaccine**</th>
<th>Batch number</th>
<th>Place of immunization***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st dose</td>
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<td></td>
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<tr>
<td>2nd dose</td>
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<tr>
<td>Other</td>
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</tbody>
</table>

*If the date is not known but the particular dose is given mark (3) in the relevant cage
** Rubella vaccine/ MMR vaccine/ MMR vaccine/ not known
*** MOH Office/ Govt. Hospital/ PHM field clinic/ private hosp, clinic, GP/ not known/ other

28. If not immunized, reason for non-immunization:
□ 1. medical contraindication □ 2. unaware of the need for vaccination □ 3. non-availability of the vaccine
□ 4. no faith in the vaccine □ 5. not known □ 6. other (specify)

F. CONTACT HISTORY

29. Was the patient in contact with a suspected / known case of rubella (fever and rash) in the month prior to the onset of rash?
□ 1. yes □ 2. no □ 3. not known

G. EXPOSURE DURING PREGNANCY (for females of reproductive age only)

30. Was the patient pregnant at the time of illness? □ 1. yes □ 2. no □ 3. not known

31. If yes, period of gestation in weeks: □ □

Important:
All pregnant mothers who had an acute attack should be followed up. If the baby is found to have acquired CRS, a separate CRS case investigation form No EPID/DS/CRS/2007 must be filled.

32. Remarks:

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

Signature: ............................................. Name: .............................................
Date: ..................................................... Designation: ..........................................

For office use only

Final classification
Laboratory confirmed •
Epidemiologically confirmed •
Clinically confirmed •

Please return to:
Epidemiologist, Epidemiology Unit, 231, De Saram Place, Colombo 10
email: epidunit@slit.net.lk Tel: 011-2695112 / 2681548 Fax: 011-2696583
Specimen Request Form: Measles & Rubella
National Reference Laboratory
Medical Research Institute, Colombo

- Name of the Patient
- Age: ___________________________ Sex: ___________________________
- Hospital: ___________________________
- Ward: ___________________________
- BHT No: ___________________________
- Address of patient's residence: ___________________________

- District of patient's residence: ___________________________
- Date of onset of fever: DD MM YYYY
- Date of onset of rash: DD MM YYYY
- Specimen collection:
  - Blood: [ ]
    - Date of collection: DD MM YYYY
    - (3 ml blood preferably serum separated & transport in cold box)
  - Throat swab: [ ]
    - Date of collection: DD MM YYYY
    - (throat swabs in virus transport media in ice)

- Date of dispatch to MRI: DD MM YYYY

*Please notify the case to Medical officer of health (H 544) & to Epidemiology Unit (EPID/151/1/2013 – Blue Form)

---

Signature of Medical Officer

---

LABORATORY USE

Date received of sample: DD MM YYYY

- Serology: DD MM YYYY
- Virus Isolation: DD MM YYYY

Sample accepted: Yes / No

(Received within 72 hrs after collection, sent in cold chain, satisfactory sample)