

**INTENSIFICATION OF SURVEILLANCE OF
MEASLES AND RUBELLA/CONGENITAL
RUBELLA SYNDROME**

**Epidemiological Unit
Ministry of Health, Nutrition & Welfare**

Congenital Rubella Syndrome (CRS) Register

Serial No.	1	2	3	4	5
Name of the patient					
Ward					
Date of admission					
Age(Date of birth)					
Sex					
B.H.T. No					
Blood for serology sent (yes/no)					
Address					
Signs / symptoms of the patient : (Yes/No)					
Microcephaly					
Mental retardation					
Congenital heart disease					
Loss of hearing					
Cataract					
Pigmentary retinopathy					
Splenomegaly					
Others (Specify)					
History of the patients mother : (Yes / No)					
Mother having febrile rash during pregnancy					
Rubella Immunization status of the mother					
If Yes date of immunization					

INTENSIFICATION OF SURVEILLANCE OF MEASLES AND RUBELLA/CONGENITAL RUBELLA SYNDROME

Measles is a highly infectious disease responsible for a high degree of morbidity among children. Fatal cases of measles however is now hardly reported as it has been controlled following successful implementation of the immunization programme.

The measles vaccine was introduced into the immunization programme of Sri Lanka towards the latter part of 1984. The morbidity and mortality due to measles continued to come down since then . In spite of a relatively low incidence of measles during the past decade, an outbreak of the disease occurred in Sri Lanka during the period of September 1999 – June 2000. This was due to accumulation of susceptibles over the years since the measles vaccine has only 85% vaccine efficacy. Over 15,000 infected cases of measles were reported to the Epidemiological Unit during this outbreak.

The Rubella vaccine was introduced to the expanded programme on immunization in 1996 targeting all females aged 11-44 years, with the objective of preventing congenital rubella syndrome (CRS). This was carried out as a school based programme. Females 11-15 years were immunized in schools and the rest were immunized in the community. MR vaccine was introduced to all children (Male and female) aged 3 years. With the introduction of the MR vaccine, the objective of rubella immunization has changed from preventing CRS to preventing rubella infection.

The main objective of the measles and rubella immunization programme is to prevent the morbidity and mortality associated with measles and congenital rubella syndrome.

1. Plan for 2005-2009

It has been decided to carry out the following activities to strengthen the epidemiological and laboratory surveillance of Rubella / CRS / Measles.

- i. Close monitoring of cases of rubella/measles
- ii. Introduce weekly reporting of Rubella/ CRS and zero case reporting
- iii. Laboratory investigations of **all cases** of rubella/measles for rubella and measles antibodies (IgG , IgM)
- iv. Prediction of outbreaks – the accumulation of susceptibles will be monitored to permit prediction of future outbreaks.

2. Case definitions

2.1 Surveillance case definition of Rubella

An illness that has following characteristics: Acute onset of generalized maculopapular rash; temperature greater than 99.0⁰F. (greater than 37.2⁰C); arthralgia, arthritis, lymphadenopathy (usually suboccipital/ postauricular/ cervical) or conjunctivitis.

2.2 Surveillance case definition of CRS

An illness usually manifesting in infancy resulting from rubella infection in utero and characterized by one or more of signs and symptoms below.

- a. Cataract/congenital glaucoma, pigmentary retinopathy
 - b. Congenital Heart disease (Most commonly Patent Ductus Arteriosus, or Peripheral Pulmonary Artery Stenosis)
 - c. Loss of hearing
 - d. Purpura, splenomegaly, jaundice
 - e. Meningoencephalitis, microcephaly, mental retardation
 - f. Radioluscent bone disease
- or
- rubella infection

2.3 Surveillance case definition of Measles Any person with:

- Fever
- and
- Maculopapular (i.e. non vesicular) rash

And at least one of the following:

- Cough
- Coryza (i.e. runny nose)
- Conjunctivitis (i.e. red eyes)

3. Weekly reporting of rubella/measles from sentinel sites

A national Rubella and Measles CRS register is maintained at the Epidemiological Unit. It has been decided to consider all AFP surveillance sites as rubella CRS/measles surveillance sites. These sentinel sites are the institutions where a pediatrician is available (Refer my No: EPID/302/V/99). All infection control nurses (ICNs) at the sentinel sites are expected to maintain a CRS/Rubella register(annexure I) as the one maintained in the Epidemiological Unit. The infection control nurses are also expected to visit medical, paediatric, obstetric, cardiology, ophthalmology and ENT wards for detection of cases (both CRS/Rubella and Measles) and to notify promptly to the Epidemiologist by phone/fax/E-mail.

Each suspected case of rubella/CRS/measles, should be included in the weekly reporting form for AFP, measles, rubella cases from hospitals (sentinel sites) –no. EPID/37/5/R2004 (annexure II), and should be sent every Friday to the Epidemiologist, Epidemiological Unit, Colombo with a copy to the Regional Epidemiologist. This form should be sent even if no cases have been detected (nil/Zero reporting) for the week. A total of 55 reports would be received from each site per year and the performance rate will be measured accordingly.

4. Laboratory investigations for measles / rubella /CRS

- A blood sample of 2-5 ml. should be collected from each suspected case of measles / rubella/CRS into a sterile, dry, screw capped container without any anti coagulant.
- Label and leave the specimen at room temperature for about 30 minutes and then refrigerate until dispatch.
- Sample should be sent to MRI for IgG and IgM antibodies for confirmation of the diagnosis.

4.1 Laboratory criteria and diagnosis of rubella

The following are considered as the laboratory criteria for the diagnosis of rubella.

- Isolation of rubella virus or,
- Significant rise between acute and convalescent phase titres in serum rubella immunoglobulin G (IgG) antibody level by any standard serological assay or,
- Positive serologic test for rubella IgM antibodies

4.2 Laboratory criteria and diagnosis of CRS

The following are considered as the laboratory criteria for the diagnosis of CRS.

- Isolation of rubella virus or,
- Demonstration of rubella specific IgM antibody or,
- Infant rubella antibody level that persists at a higher level and for a major period than expected from passive transfer of maternal antibody (i.e. rubella titre that does not drop at the expected rate of a two fold dilution per month.)

4.3 Laboratory criteria and diagnosis of Measles

The following are considered as the laboratory criteria for the diagnosis of Measles.

- Requires a single blood sample taken at first contact with the health facility with a request form for the blood sample (Annexure III)
- Detection of measles specific IgM antibodies in blood collected within 3 – 28 days of onset of rash.
- Isolation of measles virus from urine, naso-pharyngeal aspirates or peripheral blood lymphocytes during the prodrome or rash stages of the disease.

5. Immunization for Rubella / Measles

- Currently, Measles- Rubella(MR) vaccine has been incorporated into the EPI schedule, where a single dose of MR vaccine is given to children aged 3 years.
- In addition, all females in the reproductive age group (11 – 44 years) are required to have the rubella vaccine, provided that they are not pregnant at the time of administration of the vaccine.
- Immunization with rubella in schools at 8 years of age (males and females) is also in practice.

6. Other measures that can be undertaken for intensification of control of measles / Rubella / CRS

- Review of rubella vaccination status at MOH level by PHM area
- Screening for rubella vaccination at
 - Anti Natal Clinics
 - Child Welfare Clinics
 - Family Planning Clinics
 - Suwanari Clinics
- Immunization of mothers in post natal wards after delivery
- Small serological surveys in the community.

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

INSTITUTION:.....

Week of reporting: (Saturday to Friday) ...200 to ...200

Disease	Name of the patient	Age	Sex	Ward	B.H.T. No.	** D.O.A	Date of onset	Residential address

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@sltnet.lk / chepid@sltnet.lk by Head of the institution/ICN/PHI or any other identified officer.*

Request Form for Measles/Rubella Serology

Name of Hospital:-.....
Ward :.....
BHT No :.....

Particulars of the Patient

Name :.....
Address :.....
Date of Birth :.....

Age :- Year Month Date

Sex :- Male Female

Clinical History

Date of onset of fever :.....
Date of onset of rash :.....
Other (Specify) :.....

Specimen Collection

Date of collection of blood :.....
Date of separating serum :.....
Date of dispatch of specimen :.....

History of Vaccination

Vaccine type	Given or not	No .of doses given	Date of last Vaccination
Measles			
MR			
Rubella			

Name of designated medical officer :

Date:-..... Signature:-.....

For the Use of the Receiving Laboratory Only

1. Lab ID :-
2. Date of receiving the specimen at the laboratory:-.....
3. Name and designation of the person receiving the specimen:-.....
4. The condition of the specimen at the time of receiving
Good Bad
5. Type of the test performed on the specimen :-.....
6. Date of testing:-.....

Test result :