

## INTERIM MANAGEMENT GUIDELINES FOR MEASLES

### Prepared by Pediatric Infectious Disease Society of the Philippines

Measles is a highly contagious viral disease affecting mostly children. There is no specific treatment for measles and most of those affected recover within 2-3 weeks. However, especially in malnourished children and persons with reduced immunity, measles can cause serious complications such as blindness, encephalitis, severe diarrhea, ear infection and pneumonia.

#### I. Supportive Care

Treatment of measles is essentially supportive care.

1. Maintenance of good hydration and replacement of fluids lost through diarrhea or vomiting
  - IV rehydration may be necessary for severe dehydration
  - Affected patients may be highly febrile and consequently become dehydrated
2. Continue breastfeeding and continue feeding for older infants and children
3. Antipyretics for fever at 10-15 mg/kg/dose given every 4 hours for fever.
  - Paracetamol
4. Airborne precautions for hospitalized children during the period of communicability, 4 days before to 4 days after the appearance of the rash in healthy children and for the duration of illness in immunocompromised patients.
5. Among susceptible health care workers, they should be excused from work from the fifth to the 21<sup>st</sup> day after exposure

#### II. Vitamin A Supplementation

Vitamin A may reduce mortality from measles in children.

1. Vitamin A supplementation is given for 2 doses 24 hours apart as follows:
  - Infants <6 months of age: 50,000 IU/day PO
  - Age 6-11 months: 100,000 IU/day PO
  - >1 year old: 200,000 IU/day PO

The therapeutic doses of Vitamin A for measles should be given as soon as diagnosis is made regardless of when the last dose of Vitamin A was given

### III. Antiviral therapy

The measles virus has been shown to be susceptible to ribavirin in vitro. There are however, no controlled trials conducted for the use of ribavirin for measles in children. **Thus, this is not recommended.**

### IV. Postexposure Prophylaxis

Postexposure prophylaxis should be considered in unvaccinated contacts.

1. Postexposure prophylaxis with the measles vaccine within 72 hours or 3 days after exposure to measles can be given to infants, children, adolescents and adults.

This may provide some protection or modify the clinical course of measles. This may also provide protection for future exposures

2. Human Immunoglobulin

Human Immunoglobulin prevents or modifies measles in susceptible individuals if administered within 6 days of exposure. Indications for the use of the Human Ig include the following:

- Immunocompromised
- Infants 6 months to 1 year (this is because morbidity is high in children <1 year of age)
- Infants <6 months of age born to mothers w/o measles immunity
- Pregnant women

Dose for Human Ig:

- For those for whom the vaccine should be deferred ( eg. Pregnant patients): 0.25 ml/kg (not >15 ml) IM immediately after exposure
  - Measles vaccine may be given may be given 6 months later
  - For children who receive Ig for measles postexposure prophylaxis, should receive the measles vaccine 6 months later provided the child is at least 12 months of age
- Immunocompromised in whom the vaccine is contraindicated: 0.5 ml/kg (not >15 ml) IM

**The Human Ig however is expensive. It is therefore preferable and recommended to administer the vaccine within 72 hours of exposure instead if not contraindicated.**

### V. Antimicrobial Therapy

Antibiotics are indicated for patients who present with signs of pneumonia or ear infection.

1. Patients who present with rapid breathing (provided that this is not due to fever) should be started on antibiotics and managed at home.

➤ Antimicrobial Treatment indicated as follows:

Age	Empiric Treatment	Alternative Treatment	Duration
<b>0-2 mos.</b>	Pen + Aminoglycoside	Ampicillin + Aminoglycoside	7-10 days
<b>3 mos-5 yrs.</b>			
<b>Mild pneumonia</b>	Amoxicillin (40-50 mg/kg/day in 3 divided doses PO)	TMP-SMX (6-12 mg/kg/day q 12 h PO) or Chloramphenicol (75 mg/kg/day q 6 h PO) or Cefuroxime (20-30 mg/kg/day q 12 h PO)	7 days
<b>&gt;5 yrs</b>	Amoxicillin (40-50 mg/kg/day in 3 divided doses PO)	Amoxicillin-clavulanate (20-40 mg/kg/day q 8 h or 25-45 mg/kg/day q 12 h) or Erythromycin/Clarithromycin/Azithromycin	5-7 days

- Proper advice to caretakers and/or mother on home care and compliance with antibiotic treatment instructions
  - Instruct mothers to return for further treatment if the child's general condition worsens or any of the danger signs develop ( increased sleeping time, inability to feed or drink, seizures, chest indrawing)
2. Patients who present with chest indrawing, inability to feed or drink, seizures or convulsions should be admitted to hospital.
  3. Patients with rapid breathing, difficulty of breathing and chest indrawing should be started on parenteral antibiotics

➤ Antibiotic recommendation, dose and duration

<b>Moderate/Severe pneumonia</b>	<b>Penicillin G (100,000 units/kg/day q 6 h IV)</b>	<b>Chloramphenicol (100 mg/kg/day q 6 h IV) or Cefuroxime (100-150 mg/kg/day q 8 h IV) or Ampicillin-sulbactam (100-200 mg/kg/day q 6 h IV)</b>	<b>7 days but may shift to oral on 2<sup>nd</sup> or 3<sup>rd</sup> day if with clinical response May add Oxacillin ± Aminoglycoside if no response in 48-72 h</b>
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Very severe pneumonia	Chloramphenicol (100 mg/kg/day q 6 h IV)	Ceftriaxone (50-100 mg/kg/dose q 24 h IV over 10-30 min)	7 days but may shift to oral if clinically improved
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4. Patients who present with ear discharge and red/immobile eardrum should be treated with antibiotics as follows:
  - Amoxicillin 80-90 mg/kg/day 2/day for 10-14 days
  - Alternative: Cefuroxime 30 mg/kg/day in 2 divided doses  
Cefdinir 14 mg/kg/day in 1 or 2 doses  
Cefpodoxime 10 mg/kg/day once daily  
Azithromycin or clarithromycin  
Ceftriaxone 50 mg/kg single dose Intramuscular
5. For patients with chronically draining ear:
  - Keep ears always dry
  - Antibiotics are not indicated

**With increasing resistance to the most commonly used antibiotics, prophylactic antibiotic is not recommended for patients who are sent home without pneumonia or acute Otitis media**

## VI. Vaccine

- Administration of measles vaccine to children, adolescents and adults with incomplete or no vaccination using the monovalent or trivalent vaccine (contains measles, mumps and rubella). A tetravalent vaccine, MMRV (contains measles, mumps, rubella and varicella) may be used for infants 12 months to 12 years of age
  - For those who have not received any dose of the measles vaccine, they should receive 2 doses 1 month apart
  - For those who have received 1 dose of measles vaccine at 12 months of age or older, administer the second dose
  - For those with unknown history of measles vaccination, give measles vaccine for 2 doses 1 month apart
  - Children 6 months to 11 months of age should receive measles vaccine and followed by 1 dose administered on or after the first birthday, preferably between 12-15 months of age, then another dose at least 1 month after and usually given at 4-6 years

- In outbreak areas, where measles involves infants <12 months of age and have ongoing risk of exposure, measles vaccine can be given as early as 6 months
- Individuals exposed to measles should receive measles vaccine (monovalent or trivalent vaccine) within 72 hours of exposure
- Allergy to eggs is not a contraindication to measles vaccination
- For patients with treated tuberculosis, measles vaccine may be administered
- For patients with untreated tuberculosis, it is recommended to start them on anti-tuberculous treatment before administration of the vaccine
- Individuals who have received Human Immunoglobulin for measles post-exposure prophylaxis, may be given the measles vaccine at the appropriate interval, at least 6 months

VII. INH Prophylaxis

- There is no evidence of giving INH prophylaxis to children with measles.