Integrated Approach to the Management of Common Childhood Illnesses

The Section of Infectious and Tropical Diseases in Pediatrics in partnership with the International Society of Tropical Pediatrics (Philippine Chapter)

Department of Pediatrics, College of Medicine
Philippine General Hospital, University of the Philippines Manila
Taft Avenue, Manila
Telephone Nos.: (632) 526-91-67; (632) 554-84-00 local 2108
E-mail: melfortis@yahoo.com; lcbravopids@uplink.com.ph
Integrated Approach to the Management of Common Childhood Illnesses

I. Management of Sick Infant 2 Months to 5 Years
   A. Assess and Classify Cough or Difficulty in Breathing
   B. Assess and Classify Diarrhea
   C. Assess and Classify Fever
   D. Assess and Classify Ear Problem
   E. Assess and Classify Malnutrition & Anemia
   F. Immunization

II. Management of Sick Infant 1 Week to 2 Months
The Section of Infectious and Tropical Diseases in Pediatrics in partnership with the International Society of Tropical Pediatrics (Philippine Chapter)

Department of Pediatrics, College of Medicine
Philippine General Hospital, University of the Philippines Manila
Taft Avenue, Manila
Telephone No.: (632) 526-91-67;
(632) 554-84-00 local 2108
E-mail: melfortis@yahoo.com;
lcbravopids@uplink.com.ph

Consultants

Head
Salvacion R. Gatchalian, MD

Executive Director
Lulu C. Bravo, MD

Training Officer
Ma. Liza M. Gonzales, MD

Assistant Training Officer
Anna Lisa Ong-Lim, MD

Treasurer
Marimel R. Pagcatipunan, MD

Assistant Treasurer
Cecilia C. Maramba-Lazarte, MD

Business Manager
Carmina Arriola-delos Reyes, MD

Executive Staff
Ms. Melinda M. Fortus
Algorithm for the Management of Acute Bloody Diarrhea (Dysentery)*

1. Child with loose stools with blood
   2. Severely malnourished?
      Y
      3. Refer to hospital
      N
      4. Give antimicrobial for Shigella
         5. Better in 2 days?
            Y
            6. Complete 5 days treatment
               N
               7. Initially dehydrated? or age <1 yr? or measles in the past 6 wks?
                  Y
                  8. Refer to hospital
                     N
                     9. Change to second antimicrobial for Shigella
                        10. Better in 2 days?
                            Y
                            11. Complete 5 days treatment
                                N
                                12. Refer to hospital or Treat for amoebiasis

* Treatment should also include (i) oral rehydration therapy to treat or prevent dehydration, and (ii) continued frequent feeding, including breastfeeding.

b Use an oral antimicrobial effective for Shigella in the area. Give enough of the antimicrobial to last 5 days.

c If trophozoites of *E. histolytica* are seen in stool at any time by a reliable technician, treatment for amoebiasis should be given.

Integrated Approach to the Management of Childhood Illnesses

I. MANAGEMENT OF SICK CHILD 2 MONTHS TO 5 YEARS

A. GENERAL DANGER SIGNS IN A SICK CHILD (2 MONTHS UP TO 5 YEARS)

Introduction

A sick child with a general danger sign has a serious problem. Most children with a general danger sign need URGENT referral to the hospital. Many deaths during out-patient consultation may result from some failure to recognize general danger signs and underassessment of the child’s condition. Some of these deaths can be prevented if very sick children are identified on arrival and treatment is started without delay. General danger signs include (1) inability to drink or feed, (2) convulsions, (3) lethargy or unconsciousness and (4) vomiting everything being taken. In this module the physician will learn to recognize general danger signs in the young infant and child 2 months up to 5 years.

General Danger Signs:

The following are general danger signs in a sick child 2 months up to 5 years: inability to drink or breastfeed (or feed), vomits everything, convulsions, lethargy or unconsciousness.

The presence of any of the signs warrants URGENT attention.

- **Inability to drink or breastfeed** - A child has the sign “not able to drink or breastfeed” if the child is too weak to drink and is not able to suck or swallow when offered a drink or breast milk.

- **Vomits everything** - A child who is not able to hold anything down at all has the sign “vomits everything”. What goes down comes back up. A child who vomits everything will not be able to hold down food, fluids or oral drugs. A child who vomits several times but can hold down some fluids does not have this general danger sign.

- **Convulsions** - During a convulsion, the child’s arms and legs stiffen because the muscles are contracting. The child may lose consciousness or is not able to respond to spoken directions.

  Ask the mother if the child has had convulsions during this current illness. Use words the mother understands. For example, the mother may know convulsions as “fits” or “spasms”.

- **Lethargy or Unconsciousness** - A lethargic child is not awake and alert when he should be. He is drowsy and does not show interest in what is happening around him. Often the lethargic child does not look at his mother or watch your face when you talk. The child may stare blankly and appear not to notice what is going on around him.

B. ASSESS AND CLASSIFY COUGH OR DIFFICULT BREATHING

Introduction

Respiratory infections can occur in any part of the respiratory tract such as the nose, throat, larynx, trachea, air passages or lungs. A child with cough or difficult breathing may have pneumonia or another severe respiratory infection. Pneumonia is an infection of the lungs. Both bacteria and viruses can cause pneumonia. In developing countries, pneumonia is often due to bacteria. The most common are *Streptococcus pneumoniae* and *Hemophilus influenzae*. Children with bacterial pneumonia may die from hypoxia and sepsis.

There are many children who come to the health center with less serious respiratory infection. For example, a child who has a cold may cough because nasal discharge drips down the back of the throat. Or, the child may have a viral infection of the bronchi called bronchitis.

These children are not seriously ill. They do not need treatment with antibiotics and may be treated at home. Health workers need to identify the few, very sick children with cough or difficult breathing who need treatment with antibiotics. Fortunately, health workers can identify almost all cases of pneumonia by checking for these two clinical signs: fast breathing and chest indrawing. When children develop pneumonia, their lungs become stiff. One of the body’s responses to stiff lungs and hypoxia is fast breathing. When the pneumonia becomes more severe, the lungs become even stiffer. Chest indrawing may develop. Chest indrawing is a sign of severe pneumonia.

1. Actual patient assessment:
   1.1 A child with cough or difficult breathing is assessed for:

   - How long the child has had cough or difficult breathing
   - Fast breathing
   - Chest indrawing
   - Stridor in a calm child

1.2 Ask about main symptoms:

For all sick children, ask about cough or difficult breathing. Difficult breathing is any unusual pattern of breathing. Mothers may describe this as “fast”, “noisy” or “interrupted”:

- **ASK**: Does the child have cough or difficult breathing?

If the mother answers NO, look to see if you think the child has cough or difficult breathing. If the child does not have cough or difficult breathing, ask about the next main symptom, diarrhea. Do not assess the child further for signs related to cough or difficult breathing.

If the mother answers YES, ask the next question.

- **ASK**: For how long?

A child who has had cough or difficult breathing for more than 30 days has a chronic cough. This may be a sign of:

a. Tuberculosis
b. Asthma
c. Whooping cough
d. Other problems

- **COUNT** the breaths in one minute.
The child must be quiet and calm when looking and listening to his breathing.

Fast breathing is:
- 2 mos up to 12 mos - 50 breaths per minute or more
- 12 mos up to 5 years - 40 breaths per minute or more

Look for chest indrawing.

Look for chest indrawing when the child breathes in. This occurs when the effort the child needs to breathe in is much greater than normal. For chest indrawing to be present, it must be clearly visible and present all the time.

- LOOK and LISTEN for stridor.

Stridor is a harsh noise made when the child breathes in. This happens when there is a swelling of the larynx, trachea or epiglottis. This swelling interferes with air entering the lungs. A child who has stridor when calm has a dangerous condition.

2. Classify patients with cough or difficult breathing.
(See Table 1.)

### C. ASSESS AND CLASSIFY DIARRHEA

#### Introduction

Diarrheal diseases are a leading cause of childhood morbidity and mortality in developing countries, and an important cause of malnutrition. On average, children below 3 years of age in developing countries experience three episodes of diarrhea each year. In 1993, an estimated 3.2 million children below 5 years died from diarrhea. Eight out of ten of these deaths occur in the first two years of life. In many countries, diarrhea, including cholera, is also an important cause of morbidity among older children and adults.

Many diarrheal deaths are caused by dehydration. An important development has been the discovery that dehydration from acute diarrhea of any etiology and at any age, except when it is severe, can be safely and effectively treated by the simple method of oral rehydration.

Glucose and several salts - in a mixture known as Oral Rehydration Salts (ORS) - are dissolved in water to form ORS solution. ORS solution is absorbed in the small intestine even during copious diarrhea, thus replacing the water and electrolytes lost in the feces. ORS solution and other fluids may also be used as home treatment to prevent dehydration.

Essential elements in management of the child with diarrhea are the provision of oral rehydration therapy and continued feeding, and the use of antimicrobials only for those with bloody diarrhea, suspected cholera, or serious non-intestinal infections. The caretakers of young children should also be taught about feeding and hygiene practices that reduce diarrhea morbidity.

1. **Assessment and classification of the child with diarrhea**

   **1.1 History**
   Ask the mother or caretaker about:
   - presence of blood in stool
   - duration of diarrhea
   - presence of fever, cough or other important problems (e.g., convulsions, recent measles)
   - pre-illness feeding practices
   - type and amount of fluids (including breast milk) and food taken during the illness
   - drugs or other remedies taken
   - immunization history

<table>
<thead>
<tr>
<th>Signs</th>
<th>Classify as</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Any general danger sign</td>
<td>Severe Pneumonia or Very Severe Disease</td>
<td>Give first dose of appropriate antibiotic and give vitamin A to prevent low blood sugar, refer urgently to hospital</td>
</tr>
<tr>
<td>• Chest indrawing or Stridor in a calm child</td>
<td>Pneumonia</td>
<td>Give an appropriate antibiotic for 5 days, soothe the throat and relieve the cough with a safe remedy, advice mother when to return immediately, follow up in 2 days</td>
</tr>
<tr>
<td>• No signs of Pneumonia or Very Severe Disease</td>
<td>No Pneumonia or Cough or Cold</td>
<td>If coughing is &gt;30 days, refer for assessment, soothe the throat and relieve the cough with a safe remedy, advice mother when to return immediately, follow up in 5 days if not improving</td>
</tr>
</tbody>
</table>

Severe Pneumonia or Very Severe Disease:
- Antibiotics should be given in a child with signs of pneumonia
- Refer immediately to a hospital for treatment such as oxygen, bronchodilator or injectable antibiotics
- Give first dose of antibiotic to prevent severe pneumonia from becoming worse. It also helps treat other serious bacterial infections such as sepsis or meningitis.

3. Identify treatment for patients with cough or difficult breathing

Give an appropriate oral antibiotic for pneumonia:
- First line antibiotic: Co-trimoxazole 10 mg/kg/day of trimethoprim
- Second line antibiotic: Amoxicillin 40-50 mg/kg/day
2. Physical examination
2.1 First check for signs and symptoms of dehydration.
(See also Table 2.)
LOOK for these signs:
• General condition. Is the child alert; restless or irritable; floppy, lethargic or unconscious?
• Are the eyes normal, sunken or very sunken and dry?
• Are there tears when the child cries vigorously?
• Are the mouth and tongue moist, dry or very dry?
• When water or ORS solution is offered to drink, is it taken normally or refused? taken eagerly?
• Or is the child unable to drink owing to lethargy or coma?
FEEL the child to assess:
• Skin turgor: When the skin over the abdomen is pinched and released, does it flatten immediately, slowly, or very slowly (more than 2 seconds)?:

2.2 Then, check for signs of other important problems
LOOK for these signs:
• Does the child's stool contain red blood?
TAKE the child's temperature

3. Select a plan to prevent or treat dehydration
Choose the Treatment Plan that corresponds with the child's degree of dehydration:
• No signs of dehydration - follow Treatment Plan A at home to prevent dehydration and malnutrition
• Some dehydration - follow Treatment Plan B to treat dehydration
• Severe dehydration - follow Treatment Plan C to treat dehydration urgently

4. Management of acute diarrhea

Table 2. Assessment of diarrhea patients with dehydration

<table>
<thead>
<tr>
<th></th>
<th>LOOK AT CONDITION*</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes/tears</td>
<td>Well, alert</td>
<td><em>Restless, irritable</em></td>
<td><em>Lethargic or unconscious; floppy</em></td>
</tr>
<tr>
<td>Present</td>
<td>Normal</td>
<td>Sunken</td>
<td>Very sunken &amp; dry</td>
</tr>
<tr>
<td>Absent</td>
<td>Absent</td>
<td>Dry</td>
<td>Absent</td>
</tr>
<tr>
<td>Moist</td>
<td>Moist</td>
<td><em>Thirsty, drinks eagerly</em></td>
<td>*Drinks poorly, or not able to drink</td>
</tr>
<tr>
<td>Drinks normally, not thirsty</td>
<td>Drinks normally, not thirsty</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FEEL SKIN PINCH*</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Goes back quickly</td>
<td><em>Goes back slowly</em></td>
<td><em>Goes back very slowly</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DECIDE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient has NO SIGNS OF DEHYDRATION</td>
<td>If the patient has two or more signs, including at least one <em>sign</em>, there is SEVERE DEHYDRATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If the patient has two or more signs, including at least one <em>sign</em>, there is SOME DEHYDRATION</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>TREAT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Treatment Plan A</td>
<td>Weigh the patient, if possible, and use Treatment Plan B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weigh the patient and use Treatment Plan C URGENTLY</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a Being lethargic and sleepy are not the same. A lethargic child is not simply asleep; the child's mental state is dull and the child cannot be fully awakened, the child may appear to be drifting into unconsciousness.

*b In some infants and children, the eyes normally appear somewhat sunken. It is helpful to ask the mother if the child's eyes are normal or more than usual.

*c It is necessary to look inside the child's mouth. The mouth may be dry in a child who habitually breathes through the mouth. The mouth may be wet in a dehydrated child owing to recent vomiting or drinking.

*d The skin pinch is less useful in infants or children with marasmus or kwashiorkor, or obese children. Other signs may be altered in children with severe malnutrition.
after dehydration is corrected, whereas those with bloody diarrhea often eat poorly until the illness resolves.

**What foods to give**

**Milk**
- Infants of any age who are breastfed should be allowed to breastfeed as often and as long as they want. Infants will often breastfeed more than usual; this should be encouraged.
- Infants who are not breastfed should be given their usual milk feed (or formula) at least every three hours, if possible by cup. Special commercial formulas advertised for use in diarrhea are expensive and unnecessary; they should not be given routinely. Clinically significant milk intolerance is rarely a problem.
- Infants below 4 months of age who take breast milk and other foods should receive increased breastfeeding. As the child recovers and the supply of breast milk increases, other foods should be decreased (and given by cup, not bottle). This usually takes about one week. If possible, the infant should be exclusively breastfed.

**Other foods**
- Types of food recommended for child's age as often as recommended even though a child may take small amounts at each feeding
- Locally appropriate energy and nutrient rich foods
- Frequency of feeding by age should be explained clearly

**Rule 3**: Take the child to a health worker if there are signs of dehydration or other problems

The mother should take her child to a health worker if the child:
- Starts to pass many watery stools
- Has repeated vomiting
- Becomes very thirsty
- Is eating or drinking poorly
- Develops a fever
- Has blood in the stool or
- The child does not get better in three days

**Treatment Plan B**
Children with some dehydration should receive oral rehydration therapy (ORT) with ORS in a health facility following Treatment Plan B. (See Table 3)

**Treatment Plan C**
*For patients with severe dehydration*

Start IV fluids immediately. If the patient can drink, give ORS by mouth until the drip is set up. Give 100 mL/kg Ringer’s Lactate Solution divided as follows: (See Table 4)
- Reassess the patient every hour. If hydration is not improving, give the IV drip more rapidly.
- After six hours (infants) or three hours (older patients) evaluate the patient using the assessment chart.
- Then choose the appropriate Treatment Plan (A, B or C) to continue treatment.

<table>
<thead>
<tr>
<th>Table 3. Guidelines for treating children and adults with some dehydration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPROXIMATE AMOUNT OF ORS SOLUTION TO GIVE IN THE FIRST 4 HOURS</strong></td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>Infants (under 1 year)</td>
</tr>
<tr>
<td>Older (under 12 months)</td>
</tr>
</tbody>
</table>

5. **Management of acute bloody diarrhea (dysentery)**
Any child with bloody diarrhea and severe malnutrition should be referred immediately to the hospital. Otherwise, children with this problem should be assessed, given appropriate fluids to prevent or treat dehydration, and given food. (See Figure 1 - Algorithm)

6. **Management of persistent diarrhea**
The objective of treatment is to restore weight gain and normal intestinal function. Treatment of persistent diarrhea consists of giving:
- Appropriate fluids to prevent or treat dehydration
- Antimicrobial(s) to treat diagnosed infections, especially non-intestinal infections
- A nutritious diet that does not worsen the diarrhea
- Supplementary vitamins and minerals

7. **Prevention of diarrhea**
- Breastfeeding
- Improved weaning practices
- Use of safe water
- Hand-washing/Hand hygiene
- Use of latrines and safe disposal of stools
- Measles immunization

Learn to access drug info on your cellphone. Send PPD to 2600 for Globe/Smart/Sun users.
Management of Childhood Illnesses

Reduced Osmolarity ORS (Oral Rehydrating Solution) in Acute, non-cholera Diarrhea

- Meta-analysis:
  - All RCT’s in children with reduced osmolarities (210-268 mOsm/L) and sodium concentration of 50-75 mEq/L (except for 1 w/ 90 mEq/L)
- Conclusions:
  - Use of reduced osmolarity ORS associated w/ significant reduction (about 33%) in need for unscheduled IV therapy
  - Trend toward reduced stool output (20%) in reduced osmolarity ORS
  - Significant (about 30%) reduction in vomiting in reduced osmolarity ORS

Hahn et al BMJ 2001;323:81-85


Efficacy of glucose-based ORS for treatment of children with acute non-cholera diarrhea is improved by reducing sodium to 60-75 mEq/L, glucose to 75-0 mmol/L and total osmolarity to 215-260 mOsm/L.

Composition of Standard and Reduced Osmolarity ORS

<table>
<thead>
<tr>
<th>WHO-ORS</th>
<th>Standard Osm ORS (mEq or mmol/L)</th>
<th>Reduced (RECOMMENDED) (mEq or mmol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>111</td>
<td>75</td>
</tr>
<tr>
<td>Sodium</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>Chloride</td>
<td>80</td>
<td>65</td>
</tr>
<tr>
<td>Potassium</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Citrate</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Osmolarity</td>
<td>311</td>
<td>245</td>
</tr>
</tbody>
</table>

Zinc Supplementation in Diarrhea

- Pooled analysis of RCTs by Zinc Investigators’ Collaborative Group
- Dose: 3-5 mkd, 20 mg/day
- Nutr criteria: none, non-severe malnutrition, severe PEM
- Results:
  - 15% lower probability of continuing diarrhea in a given day in acute diarrhea (95% CI: 5%, 24%)
  - 24% lower probability of continuing diarrhea in persistent diarrhea (95% CI: 9%, 37%)
  - 42% lower rate of treatment failure or death in persistent diarrhea (95% CI: 10%, 63%)


Regardless of nutritional state: Zinc supplementation for 10-14 days to prevent recurrences in the next 2-3 months

- Infants < 6 months: 10 mg/day
- Older children: 20 mg/day

D. ASSESS AND CLASSIFY FEVER

Introduction

Fever has always been one of the major reasons for consult whether it be in a pediatrician’s office or a Local Health Center. The reason for a child’s fever may be minor or benign, but it could also be serious or life threatening. Our role as health workers in the management of this symptom is not just to alleviate it but address the underlying illness causing the symptom. It is important that we are able to identify the child presenting with the more serious symptoms so that help is sought at the nearest tertiary care available

COMPOSITION OF SOME ORAL REHYDRATING SOLUTIONS (ORS)

<table>
<thead>
<tr>
<th>Solution</th>
<th>Glucose (mOsm/L)</th>
<th>Na (mmol/L)</th>
<th>K (mmol/L)</th>
<th>CI (mmol/L)</th>
<th>Base (mmol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholyte Plus (1 sachet in 250 mL H2O)</td>
<td>66 (+ 53 sucrose)</td>
<td>50</td>
<td>20</td>
<td>40</td>
<td>10 (citrate); 5.43 (gluconate)</td>
</tr>
<tr>
<td>Glucolyte Plus (1 sachet in 100 mL H2O)</td>
<td>75 (dextrose)</td>
<td>75</td>
<td>20</td>
<td>65</td>
<td>10 (citrate)</td>
</tr>
<tr>
<td>Hydrite sachet, reformulated (1 sachet in 200 mL H2O)</td>
<td>75</td>
<td>75</td>
<td>20</td>
<td>65</td>
<td>10 (citrate)</td>
</tr>
<tr>
<td>Hydrite tablet (2 tabs in 200 mL H2O)</td>
<td>111</td>
<td>90</td>
<td>20</td>
<td>80</td>
<td>30 (HCO3)</td>
</tr>
<tr>
<td>Oreges (1 sachet in 250 mL H2O)</td>
<td>111</td>
<td>90</td>
<td>20</td>
<td>80</td>
<td>30 (HCO3)</td>
</tr>
<tr>
<td>Pedialyte 45 solution</td>
<td>111</td>
<td>45</td>
<td>20</td>
<td>35</td>
<td>30 (citrate)</td>
</tr>
<tr>
<td>Pedialyte 90 solution</td>
<td>126</td>
<td>90</td>
<td>20</td>
<td>80</td>
<td>30 (citrate)</td>
</tr>
</tbody>
</table>

COMPOSITION OF SOME COMMON FLUIDS NOT CONSISTENT WITH WHO RECOMMENDATIONS FOR ACUTE DIARRHEA

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Na (mmol/L)</th>
<th>K (mmol/L)</th>
<th>Osmolality (mOsm/kg H2O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial soups</td>
<td>114 - 251</td>
<td>2.2 - 17</td>
<td>290 - 507</td>
</tr>
<tr>
<td>Apple juice</td>
<td>0.1 - 3.5</td>
<td>24 - 30</td>
<td>654 - 734</td>
</tr>
<tr>
<td>Orange juice</td>
<td>0.6 - 2.5</td>
<td>41 - 65</td>
<td>290 - 507</td>
</tr>
<tr>
<td>Coca-cola</td>
<td>1.7</td>
<td>0.1</td>
<td>601</td>
</tr>
<tr>
<td>Seven-up</td>
<td>5.0 - 5.5</td>
<td>1.0 - 2.0</td>
<td>523 - 548</td>
</tr>
<tr>
<td>Coconut</td>
<td>0 - 5.4</td>
<td>32.6 - 53.5</td>
<td>255 - 333</td>
</tr>
<tr>
<td>Gatorade (line of sports drinks)</td>
<td>14.6</td>
<td>3.5</td>
<td>280 - 360</td>
</tr>
<tr>
<td>Powerade (line of sports drinks)</td>
<td>8</td>
<td>4</td>
<td>295 - 400</td>
</tr>
</tbody>
</table>
Management of Childhood Illnesses

1. **Assess fever**

   A child with fever may have malaria, dengue, measles, typhoid or other severe disease. The child may also have simple cough or cold or a viral infection.

   *Ask about FEVER in ALL sick children*

1. Does the child have fever?
   - History of fever
   - Temperature of 37.5°C or higher
   - Ask the mother if the child’s body feels hot
   - Measure the child’s temperature

   If the child does not have fever record NO and do not assess for signs related to fever.

2. Decide Malaria risk?
   - Ask whether the child has traveled in the past 4 weeks
   - Know whether malaria is endemic in your area
   - If a blood smear is taken, record the results

3. If fever has been more than 7 days, has fever been present everyday?
   - Fever that has been more than seven days could be typhoid. Refer the child for further assessment.
   - Most viral infections will last up to seven days with note of spontaneous resolution.

4. Did the child have measles in the last 3 months?
   - Complications from measles may cause the child’s present illness. A child who had measles is at risk for infections due to the immunocompromised state that ensues following infection.
   - Look for mouth ulcers
   - Pus draining from the eye
   - Clouding of the cornea

5. Look or feel for stiff neck.
   - A child with fever and stiff neck may have meningitis
   - Observe the child and see if he moves and bends his head
   - Draw the child’s attention so he bends his neck or manipulate his neck by carefully bending it. Note for resistance or crying.

6. Look for coryza or runny nose
   - Ask the mother for how long has the child’s symptom been present
   - Fever and runny nose may mean an upper respiratory tract infection which is viral in origin

7. Look for signs suggesting measles
   - Rash (see Table 5 for differentiation from other illnesses)
   - Cough, runny nose or red eyes
   - Koplik’s spots

8. Assess for DENGUE HEMORRHAGIC FEVER (dengue w/ warning signs)
   - You should know the areas at risk and the seasonal occurrence, if any, of the disease
   - Ask if the child has experienced nose or gum bleeding, black stools or black vomitus
   - History of vomiting or abdominal pain
   - Look for bleeding from the gum or nostrils
   - Look for petechiae
   - Look for signs suggesting shock

1.1 Decide the risk for presence of disease:
   (See Table 5)

<table>
<thead>
<tr>
<th>Table 5. Decide the Risk for Presence of Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> No</td>
</tr>
<tr>
<td>Does the child have fever?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>B</strong> Decide Malaria Risk</th>
<th>No</th>
<th>Yes</th>
<th>If Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the child live in a malaria area?</td>
<td>Obtain blood smear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the child travel to a malaria area in the past 4 weeks?</td>
<td>Obtain blood smear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For how long has the child have fever?</td>
<td>If &gt; 7 days REFER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decide if with Measles</th>
<th>No</th>
<th>Yes</th>
<th>Look for measles sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the child have measles in last 3 months?</td>
<td>Rash</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cough/runny nose</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Red eyes In the last 3 mos</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mouth ulcers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pus draining from eye</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clouding of the cornea</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decide Dengue Risk</th>
<th>No</th>
<th>Yes</th>
<th>If Dengue risk:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nose or gum bleeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black vomitus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black tarry stools</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Abdominal pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vomiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin petechiae</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cold clammy extremities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slow capillary refill</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourniquet test for fever 3 days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.2 Classify fever

FEVER ONLY: if a child has fever and no signs of measles

FEVER AND MEASLES: a child has signs of both fever and measles

*If there is a risk for Dengue classify the child first for malaria and for measles and then for DHF.*

To classify fever you must know whether there is malaria risk in the area and then go to the appropriate classification table.

### 1.2.1 Malaria

**Etiology:** *Plasmodium vivax, P. malariae, P. ovale, P. falciparum*

**Clinical Manifestations:** Fever, chills, sweating, shivering and headache are the classic symptoms. Sometimes, anemia may be the only sign of illness. Jaundice caused by hemolysis may also be present. Hepatosplenomegaly is seen in chronic cases. *P. falciparum* is potentially fatal. Complications of severe malaria are cerebral malaria, renal failure, pulmonary edema or severe anemia. Signs can overlap with other signs like malaria and cough with fast breathing or malaria and diarrhea. In cases like these, you have to treat both the malaria and the pneumonia or the diarrhea.

**Epidemiology:** It is endemic throughout the Philippines except for a few areas like Leyte, Cebu and Catanduanes. In most areas in the country, malaria is a significant cause of death.

- Spread is person to person via bite of the vector
- Blood transfusion
- Transplacental
- Sharing of contaminated syringes

**Deciding Malaria Risk:** You must know the malaria risk in your area. You should also ask the patient of history of travel to other parts of the country in the past 4 weeks, in which case you should know the areas of the country endemic for malaria. For any case where malaria is suspected, a blood smear should be done. (See Table 6)

### 1.2.2 Measles

**Etiology:** Measles virus (Paramyxovirus)

**Clinical Manifestations:** Fever, cough, coryza, conjunctivitis, erythematous maculopapular rash, and Koplik's spots are the main manifestations of measles. Complications which occur in 30% of cases are:

- Pneumonia
- Diarrhea
- Stridor
- Otitis media
- Mouth ulcers
- Eye infection
- Encephalitis (1/1000)

**Epidemiology:** Transmitted by direct contact with infectious droplets or by airborne spread.

**Classify measles**

A child who has fever and measles now or within the last three months is classified as having both fever and measles.

<table>
<thead>
<tr>
<th>Malaria Risk</th>
<th>Classify</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria Risk</td>
<td>Any danger sign or stiff neck</td>
<td>Very severe febrile</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood smear (+)</td>
<td>If blood smear not done and no runny nose nor measles and no other cause of fever</td>
<td>Malaria</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Malaria Risk</td>
<td>Blood smear (-)</td>
<td>With runny nose, measles or other causes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6. Classify Malaria
Management of Childhood Illnesses

### Table 7. Classify Measles

<table>
<thead>
<tr>
<th>Classify</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clouding of cornea</td>
<td>• Give vitamin A</td>
</tr>
<tr>
<td>• Deep/extensive mouth ulcers</td>
<td>• Give first dose of appropriate antibiotic</td>
</tr>
<tr>
<td>• If clouding of the cornea is present</td>
<td>• If clouding of the cornea is present or pus draining from the eyes is</td>
</tr>
<tr>
<td></td>
<td>observed, apply tetracycline</td>
</tr>
<tr>
<td></td>
<td>• REFER IMMEDIATELY to the nearest hospital</td>
</tr>
<tr>
<td>• Pus draining from the eye</td>
<td>• Give vitamin A</td>
</tr>
<tr>
<td>• Mouth ulcers</td>
<td>• Apply tetracycline if pus is draining from eye</td>
</tr>
<tr>
<td></td>
<td>• Apply gentian violet for mouth ulcers</td>
</tr>
<tr>
<td></td>
<td>• Follow up in 2 days</td>
</tr>
<tr>
<td>• Measles now or within the last three</td>
<td>• Give vitamin A</td>
</tr>
<tr>
<td>months</td>
<td></td>
</tr>
</tbody>
</table>

### First, classify the fever, then classify the measles: (See Table 7)

#### 1.2.3 Dengue Fever

(Adapted from WHO's Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control, New Edition 2009)

**Clinical Manifestations:** Fever which may last for several days (2–7 days), with or without rash, hemorrhagic manifestations (positive tourniquet test, nose bleeding, tarry stools), myalgia and polyarthritis, non-specific constitutional signs and symptoms.

**Practical classification based on the level of severity**

1. **1.2.3.a. Group A (dengue without warning signs)**
   (May be sent home)

   **Group criteria**
   Patients who do not have warning signs (see warning signs in the left column of Group B below)
   AND
   who are able:
   • to tolerate adequate volumes of oral fluids
   • to pass urine at least once every 6 hours

   **Laboratory tests**
   • full blood count (FBC)
   • hematocrit (HCT)

   **Other diagnostic aids:**
   **Tourniquet test:** This is to be performed in a child 6 months or older with no signs of shock who has fever for more than 3 days:
   1. Take the systolic blood pressure (SBP) and diastolic blood pressure (DBP). Make sure you are using the right size of cuff. Add the SBP and DBP and divide by 2 to get the Mean Arterial Pressure (MAP).
   2. Inflate the cuff to the MAP and keep that pressure for 5 minutes. It is suggested that you use a timer.
   3. Release the pressure and draw a one-inch sized square below the cuff on the front surface of the arm.
   4. Count the number of petechiae. A positive test is > 20 petechiae/square inch.

**Treatment**

Advice for:
• adequate bed rest
• adequate oral fluid intake
• if not tolerated, start intravenous fluid therapy of 0.9% saline or Ringer's lactate with or without dextrose at maintenance rate
• for obese and overweight patients, use the ideal body weight for calculation of fluid infusion
• patients may be able to take oral fluids after a few hours of intravenous fluid therapy à revise the fluid infusion frequently
• give the minimum volume required to maintain good perfusion and urine output.
• intravenous fluids are usually needed only for 24–48 hours
• Paracetamol

Patients with stable HCT can be sent home.

**Monitoring**

Daily review for disease progression:
• Hematocrit, WBC, platelet counts (e.g., decreasing white blood cell count)
• volume of fluid intake and losses; urine output (volume and frequency)
• temperature pattern; defervescence
• warning signs (until out of critical period).
• other laboratory tests (liver and renal functions tests) can be done, depending on the clinical picture and the facilities of the hospital or health center

Advice for immediate return to hospital if development of any warning signs, and
• written advice for management (e.g. home care card for dengue).
1.2.3.b. Group B (dengue with warning signs)  
(Referred for in-hospital care)

<table>
<thead>
<tr>
<th>Group Criteria</th>
<th>OR: Existing warning signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with any of the following features:</td>
<td>• Abdominal pain or tenderness</td>
</tr>
<tr>
<td>• co-existing conditions such as pregnancy, infancy, old age, diabetes mellitus, renal failure</td>
<td>• Persistent vomiting</td>
</tr>
<tr>
<td>• social circumstances such living alone, living far from hospital</td>
<td>• Clinical fluid accumulation</td>
</tr>
<tr>
<td></td>
<td>• Mucosal bleed</td>
</tr>
<tr>
<td></td>
<td>• Lethargy, restlessness</td>
</tr>
<tr>
<td></td>
<td>• Liver enlargement &gt;2 cm</td>
</tr>
<tr>
<td>Laboratory tests</td>
<td>• Full blood count (FBC)</td>
</tr>
<tr>
<td>Treatment</td>
<td>• Hematocrit (HCT)</td>
</tr>
<tr>
<td>• Encouragement for oral fluids. If not tolerated, start intravenous fluid therapy 0.9% saline or Ringer’s Lactate at maintenance rate.</td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>Monitor:</td>
</tr>
<tr>
<td>• temperature pattern</td>
<td>• Full blood count (FBC)</td>
</tr>
<tr>
<td>• volume of fluid intake and losses</td>
<td>• Hematocrit (HCT)</td>
</tr>
<tr>
<td>• urine output (volume cording)</td>
<td></td>
</tr>
<tr>
<td>• warning signs (see left column)</td>
<td></td>
</tr>
<tr>
<td>• HCT, white blood cell and platelet counts.</td>
<td></td>
</tr>
</tbody>
</table>

Laboratory tests
• full blood count (FBC)
• hematocrit (HCT)

Treatment
Obtain reference HCT before fluid therapy. Give isotonic solutions such as 0.9% saline, Ringer’s Lactate, or Hartmann’s solution. Start with 5–7 ml/kg/hr for 1–2 hours, then reduce to 3–5 ml/kg/hr for 2–4 hr, and then reduce to 2–3 and frequency) ml/kg/hr or less ac-
to clinical response.

Reassess clinical status and review HCT:
• If HCT remains the same or rises only minimally -> continue with 2–3 ml/kg/hr for another 2–4 hours;
• If the vital signs are wors-
ing and hematocrit is rising rapidly, increase the rate to 5–10 ml/kg/hr for 1–2 hours.

Reassess clinical status, repeat HCT and review fluid infusion rates accordingly:
• reduce intravenous fluids gradually when the rate of plasma leakage decreases towards the end of the critical phase.

This is indicated by:
• adequate urine output and/or fluid intake
• HCT decreases below the baseline value in a stable patient.

Monitoring
Monitor:
• vital signs and peri-
pheral perfusion (1–4 hourly until patient is out of critical phase)
• urine output (4–6 hourly); detailed fluid balance
• HCT (before and after fluid replacement, then 6–12 hourly)
• blood glucose
• other organ functions (renal profile, liver profile, coagulation profile, as indicated).

1.2.3.c. Group C (severe dengue)  
(Requires emergency treatment)

Group criteria
Patients with any of the following features:
• severe plasma leakage with shock and/or fluid accumulation with respiratory distress
• severe bleeding
• severe organ impairment

Signs of shock:
• Cold Clammy Extremities: Take and feel the child’s hand. If they are warm, the child has no circulation problem. If you are in doubt, assess capillary refill.
• Slow Capillary Refill: Take hold of the nailbed of the thumb or big toe. Apply pressure for two seconds to make it lose its color. Release the pressure and see how quickly the color returns to the nailbed. If it takes more than 3 seconds, this may mean circulatory failure.

Laboratory tests
• full blood count (FBC)
• hematocrit (HCT)
• other organ function tests as indicated

Treatment of compensated shock
Start IV fluid resuscitation with isotonic crystalloid solutions at 5–10 ml/kg/hr over 1 hour. Reassess patient’s condition.

If patient improves:
• IV fluids should be reduced gradually to 5–7 ml/kg/hr for 1–2 hours, then to 3–5 ml/kg/hr for 2–4 hours, then to 2–3 ml/kg/hr for 2–4 hours and then reduced further depending on haemodynamic status;
• IV fluids can be maintained for up to 24–48 hours.

If patient is still unstable:
• check HCT after first bolus;
• if HCT increases/still high (>50%), repeat a second bolus of crystalloid solution at 10–20 ml/kg/hr for 1 hour;
• if there is improvement after second bolus, reduce rate to 7–10 ml/kg/hr for 1–2 hours and continue to reduce as above;
• if HCT decreases, this indicates bleeding and need to cross-match and transfuse blood as soon as possible.

Treatment of hypotensive shock
Initiate IV fluid resuscitation with crystalloid or colloid solution at 20 ml/kg as a bolus for 15 minutes.

If patient improves:
• give a crystalloid/colloid solution of 10 ml/kg/hr for 1 hour, then reduce gradually as above.

If patient is still unstable:
• review the HCT taken before the first bolus;
• if HCT was low (<40% in children and adult females, <45% in adult males), this indicates bleeding, the need to cross-match and transfuse (see above);
• if HCT was high compared to baseline value, change to IV colloids at 10–20 ml/kg as a second bolus over 30 minutes to 1 hour; reassess after second bolus.
• if patient’s condition is still unstable, repeat HCT after second bolus.
• If HCT decreases, this indicates bleeding (see above);
• if HCT increases/remains high (>50%), continue colloid infusion at 10–20 ml/kg as a third bolus over 1 hour,
Management of Childhood Illnesses

### Table 8. Common Childhood Diseases with Cutaneous Manifestations

<table>
<thead>
<tr>
<th>Disease/Syndrome</th>
<th>Incubation Period</th>
<th>Clinical Characteristics</th>
<th>Lesions</th>
<th>Distribution</th>
<th>Duration of Illness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roseola</td>
<td>variable</td>
<td>Fever 3-5 days, Rapid defervescence, then appearance of rash</td>
<td>Erythematous, macular or maculopapular</td>
<td>Most common in neck and trunk, face &amp; extremities may also be affected</td>
<td>1-2</td>
</tr>
<tr>
<td>Measles</td>
<td>8-12d</td>
<td>Starts with fever, cough, coryza &amp; conjunctivitis. After 2 days appearance of Koplik’s spots; 2 days later - onset of rash</td>
<td>Erythematous, maculopapular and confluent. A brownish appearance and fine desquamation occur</td>
<td>Starts behind ears &amp; forehead, spreads down to the trunk &amp; extremities</td>
<td>5-7</td>
</tr>
<tr>
<td>Rubella</td>
<td>15-21d</td>
<td>Mild symptoms: Fever 38.5°C, headache, malaise, &amp; suboccipital &amp; postauricular lymphadenopathy</td>
<td>Erythematous, maculopapular and discrete.</td>
<td>Starts on face &amp; spreads downward to trunk &amp; extremities</td>
<td>3-5d</td>
</tr>
<tr>
<td>Dengue</td>
<td>7d</td>
<td>Sudden onset of high fever with headache, myalgia, arthralgia, abdominal pain; fever lasts 5-6 days and may end in crisis; rash appears 2 days after onset of fever</td>
<td>Initially macular, flushed appearance, then erythematous maculopapular rash may be scarlatiniform. May become petechial and purpuric.</td>
<td>Initial macular rash is more prominent centrally. Maculopapular rash may start on hands &amp; feet &amp; spread to trunk.</td>
<td>3-10</td>
</tr>
<tr>
<td>Typhoid</td>
<td>7-14d</td>
<td>Malaise, headache &amp; marked fever; Constipation, diarrhea &amp; abdominal pain may also occur; rash 10 days after fever</td>
<td>Rose spots; 2-4 mm macular lesions</td>
<td>Discrete lesions on the abdomen</td>
<td>2-3 wks or 14-21d</td>
</tr>
</tbody>
</table>

then reduce to 7–10 ml/kg/h 1–2 hours, then change back to crystalloid solution and reduce rate as above.

**Treatment of haemorrhagic complications**

Give 5–10 ml/kg of fresh packed red cells or 10–20 ml/kg of fresh whole blood.

1.2.4 Salmonella

**Etiology:** *S. typhi*, *S. paratyphi*

**Clinical Manifestations:** Fever for days or weeks, with any of the following: constipation/diarrhea, abdominal pain, anorexia, vomiting, headache. Hepatosplenomegaly on the second week of the disease with appearance of rose spots. Complications like intestinal perforation occur usually in the third week of illness if untreated.

**Epidemiology:**
- Source: Contaminated food and drink, meat and poultry products are the most common sources
- Mode of transmission: Ingestion of contaminated food and drink; fecal oral route; person to person or animal to person
- Period of communicability: Duration of fecal excretion

**E. ASSESS AND CLASSIFY EAR PROBLEM**

A child with ear problem may have ear infection. Ear

<table>
<thead>
<tr>
<th>Table 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tender swelling behind the ear</td>
</tr>
<tr>
<td>Give first dose of appropriate antibiotic</td>
</tr>
<tr>
<td>Give first dose of paracetamol for pain</td>
</tr>
<tr>
<td>Refer URGENTLY to hospital</td>
</tr>
</tbody>
</table>

| Pus draining from the ear & discharge has been <14 days | ACUTE EAR INFECTION |
| Give antibiotic for 5 days |
| Give paracetamol for pain |
| Dry the ear by wicking |
| Follow up in 5 days |

| Ear pain | CHRONIC EAR INFECTION |
| Dry the ear by wicking |
| Follow up in 5 days |

| Pus is draining from the ear & discharge is reported for ≥14 days | NO EAR INFECTION |
| No additional treatment |
infection causes the accumulation of pus behind the ear drum causing pain and fever. If left untreated the ear drum may burst causing pus to freely drain out of the ear. This would oftentimes relieve the symptom of pain and fever. However, complications may set in like hearing loss or mastoiditis (infection of the bone behind the ear).

1. **Assess ear problem**

   Assess the child for:
   - Ear pain
   - Ear discharge and if present how long
   - Tenderness and swelling behind the ear

   **Ask about ear problem in ALL sick children**
   **Does the child have an ear problem?**

   If yes, ask
   - Is there ear pain?
   - Is there ear discharge?

   **Look and feel**
   - Look for pus draining from the ear
   - Feel for tender swelling behind the ear

2. **Classification of ear problem.** See Table 9.

F. **ASSESS AND CLASSIFY MALNUTRITION AND ANEMIA**

**Introduction**

Children are usually brought to the health center for an acute illness. The child may not have specific complaints pertaining to malnutrition or anemia.

At times, physicians overlook the telltale signs of malnutrition and anemia and focus on the acute problem at hand. In these cases, it is important that the physician be able to identify these children because they are at an increased risk of many types of diseases and death, even for children with mild to moderate malnutrition. Identifying and treating children at risk could decrease the morbidity and mortality accompanying malnutrition and anemia.

Appropriate referral to a hospital for special feeding or up-building, blood transfusion and treatment of underlying diseases leading to severe malnutrition or anemia is necessary.

1. **Two common forms of malnutrition:**

   A. **Marasmus**
   - child is not getting enough energy and protein from his regular diet to meet his nutritional needs.
   - balanced starvation
   - severely wasted child and gross loss of subcutaneous fat, skin becomes loose and wrinkled
   - poor appetite
   - apathetic

   B. **Kwashiorkor**
   - malnutrition results from a low protein diet but contains calories in the form of carbohydrates
   - presence of bipedal edema is a cardinal sign
   - common signs: hair changes (sparse, straight, dyspigmentation, flag sign), scaly skin, puffy and moon faced

   Both may present with growth failure manifested as poor weight gain or a low body weight.

Malnutrition can also occur in children with diets lacking in the recommended amounts of essential vitamins and minerals.

<table>
<thead>
<tr>
<th>Table 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visible severe wasting</strong></td>
</tr>
<tr>
<td><strong>Severe palmar pallor</strong></td>
</tr>
<tr>
<td><strong>Edema of both feet</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Some palmar pallor</strong></td>
</tr>
<tr>
<td><strong>Very low weight for age</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not very low weight for age and no other signs of malnutrition</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Not eating enough iron may lead to iron deficiency anemia. Anemia is defined as a reduction of the red blood cell volume or hemoglobin concentration below normal values. Anemia may be a result of:
1. Parasitic infections, such as hookworms or whipworms, cause anemia as a result of blood loss from the gut.
2. Infections
3. Malaria - destruction of red blood cells by Plasmodium. Anemia may develop slowly as a result of repeated episodes or inadequate treatment of the disease. Children with malaria may also show signs of malnutrition.

2. Assess for malnutrition and anemia

Check all children for signs of malnutrition and anemia
• presence of visible wasting
• presence of edema of both feet
• presence of low weight for age
• presence of palmar pallor, severe palmar pallor or some palmar pallor

2.1 Look for visible severe wasting.
Note if child is very thin, has no fat & looks like skin and bones. Note if there is visible wasting of the arms, shoulders, legs and buttocks. Look if the child’s ribs are easily seen. The child’s abdomen may also be large or distended. Inspect the buttocks and see if there is loss of fat. If wasting is severe, a child may manifest with many skin folds on the buttocks and thighs.

A child may be thin but does not have visible wasting. Identifying children with severe wasting will facilitate urgent treatment and referral to a hospital.

2.2 Look and feel for edema of both feet.
Look at the feet and check for edema. Press gently the dorsum of the feet using your thumb and note if a dent remains when you lift your thumb.

The presence of edema on both feet may indicate the presence of kwashiorkor. Edema occurs when fluid gathers around tissues which appear swollen.

2.3 Determine weight for age.
Weight for age compares the child’s weight with weight of other children of the same age.

Look at the WHO weight for age chart. Children whose weights fall below the curve (heavy line) are assessed to have very low weight for age. While those whose weights fall on or above the bottom curve may be malnourished, they do not fall in the very low weight category and may not need urgent referral to the hospital.

3. Classification and treatment of malnutrition & anemia: See Table 10.

Children classified as having severe malnutrition should be referred to a hospital for up building (special feeding), careful monitoring and treatment of the underlying cause of malnutrition.

Children with severe anemia should likewise be referred to the hospital for blood transfusion and work up of the anemia. The health worker should give a dose of vitamin A before leaving for the hospital as follows:
• 6 months up to 12 months 100,000 units
• 12 months to 5 years 200,000 units

Vitamin A will help the immune system prevent certain infections as well as prevent Vitamin A deficiency leading to corneal clouding or Bitot’s spot. Vitamin A

<table>
<thead>
<tr>
<th>Age</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>BCG Hep B-1</td>
</tr>
<tr>
<td>6 weeks</td>
<td>DPT-1 OPV-1 Hep B-2 Hib B-1</td>
</tr>
<tr>
<td>10 weeks</td>
<td>DPT-2 OPV-2 Hib B-2</td>
</tr>
<tr>
<td>14 weeks</td>
<td>DPT-3 OPV-3 Hep B-3 Hib B-3</td>
</tr>
<tr>
<td>9 months</td>
<td>Measles</td>
</tr>
<tr>
<td>12 months</td>
<td>MMR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If the child</th>
<th>Immunize this child today if due for immunization</th>
<th>Do not immunize today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will be treated at home with antibiotics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has local skin infection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had convulsion immediately after DPT1 and needs DPT2 and OPV2 today</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has chronic heart problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is being treated for severe classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is exclusively breastfed older brother had convulsion last year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was jaundiced at birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is very low weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is known to have AIDS and has not received any immunization at all</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has NO PNEUMONIA: COUGH OR COLD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Management of Childhood Illnesses

FORM 1: MANAGEMENT OF THE SICK CHILD 2 MONTHS TO 5 YEARS*
Child's Name: ___________________________ Age: ___ Weight: ___ kg Temperature: ___ °C
ASK: What are the child's problems? _________________ Initial visit? ___ Follow-up Visit? ___

ASSESS (Circle all signs present)

<table>
<thead>
<tr>
<th>CHECK FOR GENERAL DANGER SIGNS</th>
<th>ABNORMALLY SLEEPY OR DIFFICULT TO AWAKEN</th>
<th>CLASSIFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT VOMITS EVERYTHING CONVULSIONS</td>
<td>Yes _____ No _____</td>
<td></td>
</tr>
<tr>
<td><strong>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</strong> Yes ___ No ___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• For how long? _______ days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Count the breaths in one minute. _____ breaths per minute. Fast breathing?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Look for chest indrawing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Look and listen for stridor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DOES THE CHILD HAVE DIARRHEA?</strong> Yes ___ No ___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• For how long? _______ days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is there blood in the stools?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Look at the child's general condition. Abnormally sleepy or difficult to awaken?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Restless or irritable?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Look for sunken eyes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Offer the child fluid. Is the child: Not able to drink or drinking poorly? Drinking eagerly, thirsty?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pinch the skin of the abdomen. Does it go back. Very slowly (longer than 2 seconds)? Slowly?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37.5°C or above) Yes ___ No ___
Decide Malaria Risk
• Does the child live in a malaria area? | | |
• Has the child visited a malaria area in the past 4 weeks? If malaria risk, obtain blood smear. | | |
   + Pt PV - Not done | | |
• For how long has the child had fever? _______ days. | | |
• If more than 7 days, has fever been present every day? | | |
• Has the child had measles within the last 3 months? | | |

If the child has measles now or within the last 3 months:
• Look for signs of MEASLES. | | |
• Generalized rash and | | |
   One of these: cough, runny nose, or red eyes | | |

Decide Dengue Risk: Yes _____ No _____
If dengue risk, then ask:
• Has the child had any bleeding from the nose or gums or in the vomitus or stools? | | |
• Has the child had black vomitus or black tarry stool? | | |
• Has the child had abdominal pain? | | |
• Has the child been vomiting? | | |

• Look for bleeding from nose or gums | | |
• Look for skin petechiae. | | |
• Feel for cold and clammy extremities. | | |
• Check capillary refill. _____ seconds. | | |
• Perform tourniquet test if child is 6 months or older AND has no other signs AND has fever for more than 3 days. | | |

DOES THE CHILD HAVE AN EAR PROBLEM? Yes ___ No ___
If ear pain, then ask:
• Is there ear pain? | | |
• Is there ear discharge? | | |
   If yes, for how long? _______ days | | |

• Look for pus draining from the ear. | | |
• Feel for tender swelling behind the ear. | | |
THEN CHECK FOR MALNUTRITION AND ANEMIA
- Look for visible severe wasting.
- Look for edema of both feet.
- Look for palmar pallor.
  Severe palmar pallor? Some palmar pallor?
- Determine weight for age.
  Very slow?

CHECK THE CHILD’S IMMUNIZATION STATUS Circle immunizations needed today.

<table>
<thead>
<tr>
<th></th>
<th>BCG</th>
<th>DPT1</th>
<th>OPV1</th>
<th>HEP B1</th>
<th>Hib 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

|          | OPV0 | DPT2 | OPV2 | HEP B2 | Hib 2 | Measles | MMR |
|----------|------|------|------|--------|-------|---------|
|          | ____ | ____ | ____ | ____   | ____  | ____    | ____|

<table>
<thead>
<tr>
<th></th>
<th>DPT3</th>
<th>OPV3</th>
<th>HEP B3</th>
<th>Hib 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

Return for next Immunization

CHECK THE VITAMIN A SUPPLEMENTATION STATUS
for children 9 months or older
Is the child nine months of age or older? Yes _____ No _____
Has the child received Vitamin A in the past six months? Yes _____ No _____

ASSESS CHILD’S FEEDING if child has ANEMIA OR VERY LOW WEIGHT or is less than 2 years old.
- Do you breastfeed your child? Yes _____ No _____
  Yes, how many times in 24 hours? ____ times.
- Do you breastfeed during the night? Yes _____ No _____
- Does the child take any other food or fluids? Yes _____ No _____
  If Yes, what food or fluids? ________
  How many times per day? ____ times. What do you use to feed the child?__________
  If very low weight for age: How large are servings? __________________________
  Does the child receive his/her own serving? __________________________
  Who feeds the child and how? __________________________
- During the illness, has the child’s feeding changed? Yes _____ No _____
  If yes, How?

ASSESS OTHER PROBLEMS:

Vitamin A needed today
Yes _____ No _____

Feeding Problems:

* From: WHO Recommended Forms for Use in IMCI.
supplementation will decrease the childhood mortality in measles.

A child with some palmar pallor may have anemia. The health worker may give 6 mg/kg of elemental iron in three divided doses.

Children less than 2 years old have a higher risk of feeding problems and malnutrition than older children. It is important to assess the child’s feeding in this age group.

Ask the mother the following: Is the child breastfed? What other foods is the child taking? How often does the child feed per day? How large are the servings? Who feeds the child and how? Counsel the mother on proper feeding.

Mothers with infants up to 4 months of age should be advised to exclusively breastfeed, as often as the child wants, at least 8 times a day. There is no need to give other food or fluids. At 4 to 6 months of age, the child needs complementary or weaning foods. Breastfeeding should be continued as often as the child wants. The mother is to be advised that complementary foods should be given 1 to 2 times daily after breastfeeding to avoid replacing breastmilk. Complementary foods are the main source of energy. As the child gets older, family foods should become an important part of the child’s diet.

G. IMMUNIZATION

Introduction

The ultimate goal of immunization is eradication of disease, with the immediate goal of prevention of disease in individuals or groups.

To accomplish these goals, physicians must maintain timely immunization, including both active and passive immunoprophylaxis, as high priority in the care of infants and children.

1. Use a recommended immunization schedule:

   See Table 11.
   - Give the recommended vaccine when the child is at the appropriate age for each dose
   - All children should receive all the recommended immunizations before their first birthday
   - If the child does not come for an immunization at the recommended age, give the necessary immunizations any time after the child reaches that age
   - No need to repeat the whole schedule

2. Contraindications to immunization
   - Do not give immunization to a child known to have AIDS
   - Do not give DPT-2 or DPT-3 to a child who has had convulsions or shock within 3 days of the most recent dose
   - Do not give DPT to a child with recurrent convulsions or other active neurological disease of the central nervous system. In all other situations, here is a good rule to follow.

   “There are no contraindications to immunization of a sick child if the child is well enough to go home”

If a child is going to be referred, do not immunize the child before referral.

Children with diarrhea who are due for OPV should receive a dose of OPV during this visit. However, do not count the dose. The child should return when the next dose of OPV is due, for an extra dose of OPV.

Exercise: Decide if a contraindication is present for each of the following children. (See Table 12.)

II. MANAGEMENT OF THE SICK YOUNG INFANT

(1 WEEK TO 2 MONTHS)

Introduction

In this module the physician will learn to manage a sick young infant age 1 week up to 2 months. Management of sick newborns less than 1 week old will not be covered since these newborn infants are often sick from conditions related to labor and delivery, or have conditions which require special management (such as asphyxia, sepsis from premature rupture of membranes or other intrauterine infection, or birth trauma).

Young infants have special characteristics that must be considered when classifying their illness. They can become sick and die very quickly from serious bacterial infections. Frequently, they only have general danger signs such as decreased activity, fever or low body temperature. Mild chest indrawing is normal in young infants because their chest wall is soft. For these reasons, the assessment, classification and treatment of a young infant is somewhat different compared to that of an older infant or young child.

Some of what has been taught in managing sick children aged 2 months up to 5 years is useful for young infants, like the assessment and classification of diarrhea and dehydration. This module will focus on new information and skills needed by physicians, medical students and other health workers in managing infants aged 1 week to 2 months.

1. Check for possible bacterial infection
   - Must be done for every sick young infant
   - Three important bacterial infections: pneumonia, sepsis and meningitis
   - Signs and symptoms may be indistinguishable
   - Assess the signs in the order
   - Keep the young infant calm during the assessment
   - Presence of any sign warrants referral to a hospital

   Signs and Symptoms of Possible Bacterial Infection in a Young Infant
   a. Convulsion
   b. RR >60/min
   c. Severe chest indrawing
      Mild chest indrawing is normal in a young infant because of the soft chest wall.
      Severe chest indrawing is a sign of pneumonia and is serious in a young infant.
   d. Nasal flaring: widening of the nostrils when the young infant breathes in
   e. Grunting: short sounds a young infant makes when breathing in
   f. Bulging fontanelle: the infant must be in an upright position and must be calm and quiet. If the fontanelle is bulging rather than flat, this may mean the young infant has meningitis.
   g. Pus draining from ear
   h. Erythema and discharge from the umbilicus: redness extending to the skin of the abdominal wall is a sign of serious bacterial infection
   i. Abnormal body temperature
      Fever-axillary temperature more than 37.5°C or rectal temperature more than 38°C. It may be the only sign of a serious bacterial infection. However other causes of fever like dehydration and overdressing must be likewise checked.
      Hypothermia- body temperature below 35.5°C axillary and 36°C rectal which may be the infant’s response to infection.
   j. Severe skin pustules
      Red spots or blisters which contain pus. A severe pustule is large or has redness extending beyond the pustule, many or severe pustules indicate a serious infection.
k. Lethargy or unconsciousness
   Young infants sleep most of the time and this is not a sign of illness. Even when awake, a healthy young infant will usually not watch his mother and a health worker while they talk, as an older infant or young child would. A lethargic young infant is not awake and alert when he should be. He may be drowsy and may not stay awake after a disturbance. If a young infant does not wake up during the assessment, ask the mother to wake him. An unconscious young infant cannot be awakened at all. He does not respond when he is touched or spoken to.

l. Abnormal movements
   An awake young infant will normally move his arms or legs or turn his head several times in a minute if you watch him closely. Observe the infant’s movements while you do the assessment. If the movement is less than normal, this could be a sign of a possible bacterial infection.

2. Local bacterial infection
   • Young infants with this classification have an infected umbilicus or a skin infection
   • Treatment includes giving an appropriate oral antibiotic at home for 5 days
   • Should return for follow up in 2 days to be sure the infection is improving

3. Assess, classify, and treat a young infant with diarrhea
   • The normally frequent or loose stools of a breastfed baby is not diarrhea.
   • The mother of a breastfed baby can recognize diarrhea because the consistency or frequency of the stools is different than normal.
   • The assessment is similar to the assessment of diarrhea for an older infant or young child, but fewer signs are checked.
   • Thirst is not assessed. This is because it is not possible to distinguish thirst from hunger in a young infant.
   • Diarrhea in a young infant is classified in the same way as in an older infant or young child.
   • Compare the infant’s signs to the signs listed and choose one classification for dehydration.
   • Choose an additional classification if the infant has diarrhea for 14 days or more, or blood in the stool.
   Note that there is only one possible classification for persistent diarrhea in a young infant. This is because any young infant who has persistent diarrhea has suffered with diarrhea in a large part of life and should be referred. (See Table 13)

4. Assess and classify a young infant for a feeding problem or low birth weight
   Problems/Conditions Associated with Feeding Problems in a Young Infant
   Definition of Feeding Problems in a Breastfed Infant
   • difficulty in breastfeeding with low weight (use weight for age chart)
   • breastfeeds less than 8 times in 24 hours
   • no other urgent medical conditions requiring hospital referral or any serious bacterial infection

   Problems Associated with Breastfeeding
   • problems with attachment
   • problems with sucking
   • blocked nose
   • ulcers or white patches in the mouth

5. Identify appropriate treatment
   • Urgent referral to a hospital
   • Young infant with possible serious bacterial infection

Table 13.

<table>
<thead>
<tr>
<th>Two of the following signs:</th>
<th>SEVERE</th>
<th>Ref to Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞ Lethargic or unconscious</td>
<td>DEHYDRATION</td>
<td>➞ If infant does not have possible serious bacterial infection:</td>
</tr>
<tr>
<td>➞ Sunken eyes</td>
<td>SEVERE DEHYDRATION</td>
<td>- Give fluid for severe dehydration (Plan B) or - Refer urgently to hospital with mother giving frequent sips of ORS on the way. Advise mother to continue breastfeeding.</td>
</tr>
<tr>
<td>➞ Skin pinch goes back very slowly</td>
<td>DEHYDRATION</td>
<td>➞ If infant also has possible serious bacterial infection:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two of the following signs:</th>
<th>SOME DEHYDRATION</th>
<th>Ref to Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞ Restless, irritable</td>
<td>DEHYDRATION</td>
<td>➞ Give fluid and food for some dehydration (Plan A)</td>
</tr>
<tr>
<td>➞ Sunken eyes</td>
<td>DEHYDRATION</td>
<td>➞ If infant also has possible serious bacterial infection:</td>
</tr>
<tr>
<td>➞ Skin pinch goes back slowly</td>
<td>DEHYDRATION</td>
<td>- Refer urgently to hospital with mother giving frequent sips of ORS on the way. Advise mother to continue breastfeeding.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two of the following signs:</th>
<th>NO DEHYDRATION</th>
<th>Follow up in 2 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞ Not enough signs to classify as some or severe dehydration.</td>
<td>DEHYDRATION</td>
<td>➞ Give fluids to treat diarrhea at home (Plan A)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diarrhea lasting 14 days or more</th>
<th>SEVERE PERSISTENT DIARRHEA</th>
<th>Follow up in 2 days</th>
</tr>
</thead>
</table>

5.1 Treatment for a young infant who does not need urgent referral
Record treatment, advise mother on what to give and when to return for a follow up visit
Follow up visits:
If infant gets worse on follow up, refer to the hospital
Advise follow up after 2 days in a young infant who:
• receives antibiotics for local bacterial infection or

Definition of Feeding Problems in a Breastfed Infant

Problems in a Young Infant
Problems/Conditions Associated with Feeding

<table>
<thead>
<tr>
<th>Table 13.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two of the following signs:</td>
</tr>
<tr>
<td>➞ Lethargic or unconscious</td>
</tr>
<tr>
<td>➞ Sunken eyes</td>
</tr>
<tr>
<td>➞ Skin pinch goes back very slowly</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two of the following signs:</th>
<th>SOME DEHYDRATION</th>
<th>Ref to Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞ Restless, irritable</td>
<td>DEHYDRATION</td>
<td>➞ Give fluid and food for some dehydration (Plan A)</td>
</tr>
<tr>
<td>➞ Sunken eyes</td>
<td>DEHYDRATION</td>
<td>➞ If infant also has possible serious bacterial infection:</td>
</tr>
<tr>
<td>➞ Skin pinch goes back slowly</td>
<td>DEHYDRATION</td>
<td>- Refer urgently to hospital with mother giving frequent sips of ORS on the way. Advise mother to continue breastfeeding.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two of the following signs:</th>
<th>NO DEHYDRATION</th>
<th>Follow up in 2 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞ Not enough signs to classify as some or severe dehydration.</td>
<td>DEHYDRATION</td>
<td>➞ Give fluids to treat diarrhea at home (Plan A)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diarrhea lasting 14 days or more</th>
<th>SEVERE PERSISTENT DIARRHEA</th>
<th>Follow up in 2 days</th>
</tr>
</thead>
</table>

Follow up visits:
If infant gets worse on follow up, refer to the hospital
Advise follow up after 2 days in a young infant who:
• receives antibiotics for local bacterial infection or
Management of Childhood Illnesses

8. Correct positioning and attachment for breastfeeding

8.1 Reasons for poor attachment and ineffective sucking
1. previous non-breastfeeding especially in the first few days after delivery
2. inexperienced mother

8.2 Good positioning is recognized by the following signs:
- infant’s neck is straight or bent slightly back
- infant’s body is turned towards the mother
- infant’s body is close to the mother
- infant’s whole body is supported

8.3 Poor positioning is recognized with any of the following:
- infant’s body is twisted or bent forward
- infant’s body is turned away from mother
- infant’s body is not close to mother
- only the infant’s head and neck are supported
Positioning is important because poor positioning often results in poor attachment, especially in younger infants.

8.4 Teaching correct positioning and attachment for breastfeeding:

8.4.1 Show the mother how to hold her infant
- with the infant’s head and body straight
- facing her breast, with infant’s nose opposite her nipple
- with infant’s body close to her body
- supporting infant’s whole body, not just neck and shoulders

8.4.2 Show her how to help the infant to attach. She should:
- touch her infant’s lips with her nipple
- wait until her infant’s mouth is opening wide
- move her infant quickly onto her breast, aiming the infant’s lower lip well below the nipple

8.4.3 Look for signs of good attachment and effective sucking. If the attachment or sucking is not good, try again.

8.5 Counseling about other feeding problems
- breastfeed for 8 times or more in 24 hours
- breastfeed as often and for as long as the infant wants, day and night
- feed the infant any other drinks from a cup, and not from a feeding bottle
- refer a mother who does not breastfeed for counseling and re-lactation
- advise a mother who does not breastfeed about choosing and correctly preparing an appropriate breast milk substitute to be given with a cup and not from a feeding bottle

9. Home care for the sick young infant
- Breastfeed frequently as often and for as long as the infant wants, to provide nourishment and help prevent dehydration
- Tell the mother when to return for follow up visit and when to return immediately
- Follow-up visit (See section on follow-up)
- Return immediately if the young infant has any of these signs:
  - Breastfeeding or drinking poorly
  - Becomes more sick
  - Develops fever
  - Fast breathing
  - Difficult breathing
  - Blood in stool
- Keep the infant warm at all times

5.2 Treatment with appropriate oral or parenteral antibiotic:

Local bacterial infection
- Amoxicillin : 40-50 mg/kg/day q 8 hours for 5 days
- Co-trimoxazole : 8-10 mg/kg/day of trimethoprim q 12 hours for 5 days*
* Do not give to infants <1 month old who are premature and jaundiced

Dysentery
- Give antibiotic recommended for Shigella in your area for 5 days

Possible serious bacterial infection
- Needs coverage for gram-negative and gram-positive organisms (E. coli and Grp. B Strep); combination of gentamicin and penicillin given IM
- Referral is the best option for a young infant classified with possible serious bacterial infection. If referral is not possible, give benzylpenicillin & gentamicin for at least 5 days. Give benzylpenicillin every 6 hours and gentamicin every 8 hours. For infants in the first week of life, give gentamicin every 12 hours. Gentamicin 2.5 mg/kg/dose Benzylpenicillin 50,000 units/kg/dose

5.3 Treatment of Diarrhea
- Similar to treatment plans for older infants, but need to emphasize to continue breastfeeding. If an infant is exclusively breastfed, do not introduce any food-based fluid but may give additional ORS solution or clean water.
- Treat some dehydration, during the first 4 hours of rehydration, encourage the mother to pause to breastfeed whenever the infant wants, then resume giving ORS.
- Give a young infant who does not breastfeed an additional 100-200 mL clean water.

6. Immunization of the sick young infant
- Administer any immunization that the young infant needs
- Tell the mother when to bring the infant for the next immunization

7. Treatment of local infections at home
- Skin pustules or umbilical infections
- Wash hands before and after treating the infection
- Gently wash off pus and crusts with soap and water
- Dry the area
- Paint with gentian violet
- Oral thrush (ulcers or white patches in mouth)
- Wash hands before and after
- Wash mouth with clean, soft cloth wrapped around the finger and wet with salt water
- Paint the mouth with half-strength gentian violet
- Stop using gentian violet after 5 days

8.1 Reasons for poor attachment and ineffective sucking
1. previous non-breastfeeding especially in the first few days after delivery
2. inexperienced mother

8.2 Good positioning is recognized by the following signs:
- Infant’s neck is straight or bent slightly back
- Infant’s body is turned towards the mother
- Infant’s body is close to the mother
- Infant’s whole body is supported

8.3 Poor positioning is recognized with any of the following:
- Infant’s body is twisted or bent forward
- Infant’s body is turned away from mother
- Infant’s body is not close to mother
- Only the infant’s head and neck are supported
Positioning is important because poor positioning often results in poor attachment, especially in younger infants.

8.4 Teaching correct positioning and attachment for breastfeeding:

8.4.1 Show the mother how to hold her infant
- With the infant’s head and body straight
- Facing her breast, with infant’s nose opposite her nipple
- With infant’s body close to her body
- Supporting infant’s whole body, not just neck and shoulders

8.4.2 Show her how to help the infant to attach. She should:
- Touch her infant’s lips with her nipple
- Wait until her infant’s mouth is opening wide
- Move her infant quickly onto her breast, aiming the infant’s lower lip well below the nipple

8.4.3 Look for signs of good attachment and effective sucking. If the attachment or sucking is not good, try again.

8.5 Counseling about other feeding problems
- Breastfeed for 8 times or more in 24 hours
- Breastfeed as often and for as long as the infant wants, day and night
- Feed the infant any other drinks from a cup, and not from a feeding bottle
- Refer a mother who does not breastfeed for counseling and re-lactation
- Advise a mother who does not breastfeed about choosing and correctly preparing an appropriate breast milk substitute to be given with a cup and not from a feeding bottle

9. Home care for the sick young infant
- Breastfeed frequently as often and for as long as the infant wants, to provide nourishment and help prevent dehydration
- Tell the mother when to return for follow up visit and when to return immediately
- Follow-up visit (See section on follow-up)
- Return immediately if the young infant has any of these signs:
  - Breastfeeding or drinking poorly
  - Becomes more sick
  - Develops fever
  - Fast breathing
  - Difficult breathing
  - Blood in stool
- Keep the infant warm at all times

See Form 2.

8. Correct positioning and attachment for breastfeeding

www.TheFilipinoDoctor.com I Sign up and open your clinic to the world.

43
**FORM 2: MANAGEMENT OF THE SICK YOUNG INFANT AGE 1 WEEK UP TO 2 MONTHS**

Name: ____________________  Age: _____  Weight: _____ kg  Temperature: _____ °C  

**ASK:** What are the infant's problem?  ____________  Initial visit? _____  Follow-up Visit?__ 

**ASSESS** (Circle all signs present)  

<table>
<thead>
<tr>
<th>CHECK FOR POSSIBLE BACTERIAL INFECTION</th>
<th>CLASSIFY</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Has the infant had convulsions?</td>
<td></td>
</tr>
<tr>
<td>• Count the breaths in one minute. _____ breaths per minute. Repeat if elevated ______. Fast breathing?</td>
<td></td>
</tr>
<tr>
<td>• Look for severe chest indrawing.</td>
<td></td>
</tr>
<tr>
<td>• Look for nasal flaring.</td>
<td></td>
</tr>
<tr>
<td>• Look and listen for grunting.</td>
<td></td>
</tr>
<tr>
<td>• Look for bulging fontanelle.</td>
<td></td>
</tr>
<tr>
<td>• Look for pus draining from the ear.</td>
<td></td>
</tr>
<tr>
<td>• Look at the umbilicus. Is it red or draining pus?</td>
<td></td>
</tr>
<tr>
<td>• Does the redness extend to the skin?</td>
<td></td>
</tr>
<tr>
<td>• Fever (temperature 37.5°C or above or feels hot) or low body temperature (below 35.5°C or feels cool)</td>
<td></td>
</tr>
<tr>
<td>• Look for skin pustules. Are there many or severe pustule?</td>
<td></td>
</tr>
<tr>
<td>• See if the young infant is abnormally sleepy or difficult to awaken.</td>
<td></td>
</tr>
<tr>
<td>• Look at young infant's movements. Less than normal?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DOES THE YOUNG INFANT HAVE DIARRHEA?</th>
<th>Yes  No</th>
</tr>
</thead>
<tbody>
<tr>
<td>• For how long? _____ Days</td>
<td></td>
</tr>
<tr>
<td>• Is there blood in the stools?</td>
<td></td>
</tr>
<tr>
<td>• Look at the young infant's general condition. Is the infant:</td>
<td></td>
</tr>
<tr>
<td>Abnormally sleepy or difficult to awaken</td>
<td></td>
</tr>
<tr>
<td>Restless or irritable?</td>
<td></td>
</tr>
<tr>
<td>• Look for sunken eyes.</td>
<td></td>
</tr>
<tr>
<td>• Pinch the skin of the abdomen. Does it go back:</td>
<td></td>
</tr>
<tr>
<td>Very slowly (longer than 2 seconds)?</td>
<td></td>
</tr>
<tr>
<td>Slowly?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is there any difficulty feeding? Yes No</td>
<td></td>
</tr>
<tr>
<td>If Yes, No, determine weight for age. Low _____ Not Low _____</td>
<td></td>
</tr>
<tr>
<td>• Is the infant breastfed? Yes No</td>
<td></td>
</tr>
<tr>
<td>If Yes, how many times in 24 hours? _____ times</td>
<td></td>
</tr>
<tr>
<td>• Does the infant usually receive any other foods or drinks? Yes No</td>
<td></td>
</tr>
<tr>
<td>If Yes, how often?</td>
<td></td>
</tr>
<tr>
<td>• What do you use to feed the child?</td>
<td></td>
</tr>
</tbody>
</table>

If the infant has any difficulty feeding, is feeding less than 8 times in 24 hours, is taking any other food or drinks, or is low weight for age AND has no indications to refer urgently to hospital:

**ASSESS BREASTFEEDING:**  
Has the infant breastfed in the previous hour?

If infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeed for 4 minutes.

- Is the infant able to attach? To check attachment, look for:
  - Chin touching breast Yes No
  - Mouth wide open Yes No
  - Lower lip turned outward Yes No
  - More areola above than below the mouth Yes No

  **no attachment at all**  **not well attached**  **good attachment**

- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?
  **not suckling at all**  **not suckling effectively**  **suckling effectively**

- Look for ulcers or white patches in the mouth (thrush).

**CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS**  
Circle immunizations needed today

<table>
<thead>
<tr>
<th>BCG</th>
<th>OPV0</th>
<th>DPT1</th>
<th>OPV1</th>
<th>HEP B1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Date)</td>
</tr>
</tbody>
</table>

**ASSESS OTHER PROBLEMS:**

* From: WHO Recommended Forms for Use in IMCI.
Management of Childhood Illnesses

Index of Drugs Mentioned in the Guideline

This index lists the products and/or their therapeutic classifications mentioned in the guideline. For the doctor's convenience, brands available in the PPD references are listed under each of the classes. For drug information, refer to the PPD references (PPD, PPD Pocket Version, PPD Text, PPD Tabs, and www.TheFilipinoDoctor.com).

<table>
<thead>
<tr>
<th>Analgesics/Antipyretics</th>
<th>Para-Aminophenol Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paracetamol</strong></td>
<td><strong>Aeknil</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Algesia</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Alvedon</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Biogesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Calpol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Cetra</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolcet</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolcet Mini</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolexpel</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dynatussin</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Kiddietts</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Medgenol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Meforagesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Nahalgesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Napran</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Naprex</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Opigesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Pynal</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Saridon Triple Action</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Sinomol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tempra/Tempra Forte</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tyleanol</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analgesics/Antipyretics</th>
<th>Paracetamol Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aeknil</strong></td>
<td><strong>Algesia</strong></td>
</tr>
<tr>
<td><strong>Algesia</strong></td>
<td><strong>Alvedon</strong></td>
</tr>
<tr>
<td><strong>Biogesic</strong></td>
<td><strong>Calpol</strong></td>
</tr>
<tr>
<td><strong>Cetra</strong></td>
<td><strong>Dolcet</strong></td>
</tr>
<tr>
<td><strong>Dolcet Mini</strong></td>
<td><strong>Dolexpel</strong></td>
</tr>
<tr>
<td><strong>Dynatussin</strong></td>
<td><strong>Kiddietts</strong></td>
</tr>
<tr>
<td><strong>Medgenol</strong></td>
<td><strong>Meforagesic</strong></td>
</tr>
<tr>
<td><strong>Nahalgesic</strong></td>
<td><strong>Napran</strong></td>
</tr>
<tr>
<td><strong>Naprex</strong></td>
<td><strong>Opigesic</strong></td>
</tr>
<tr>
<td><strong>Pynal</strong></td>
<td><strong>Saridon Triple Action</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Sinomol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tempra/Tempra Forte</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analgesics/Antipyretics</th>
<th>Para-Aminophenol Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paracetamol</strong></td>
<td><strong>Aeknil</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Algesia</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Alvedon</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Biogesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Calpol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Cetra</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolcet</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolcet Mini</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dolexpel</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Dynatussin</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Kiddietts</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Medgenol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Meforagesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Nahalgesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Napran</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Naprex</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Opigesic</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Pynal</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Saridon Triple Action</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Sinomol</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tempra/Tempra Forte</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Tyleanol</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antimalarials</th>
<th>Artemether + Lumefantrine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coartem</strong></td>
<td><strong>Mefloquine</strong></td>
</tr>
<tr>
<td><strong>Quinine sulfate</strong></td>
<td><strong>Rhea Quinine Sulfate</strong></td>
</tr>
<tr>
<td><strong>Sulfadoxine + Pyrimethamine</strong></td>
<td><strong>Fansidar</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory Drugs</th>
<th>Bronchodilators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Butamirate citrate</strong></td>
<td><strong>Cough and Cold Preparations</strong></td>
</tr>
<tr>
<td><strong>Dextromethorphan</strong></td>
<td><strong>Antidiuretics</strong></td>
</tr>
<tr>
<td><strong>Dextromethorphan + Guaifenesin</strong></td>
<td><strong>Butanase 2</strong></td>
</tr>
<tr>
<td><strong>Dextrimethorphan + Guaifenesin</strong></td>
<td><strong>Dextrimethorphan</strong></td>
</tr>
<tr>
<td><strong>Mucocil</strong></td>
<td><strong>Dextromethorphan + Guaifenesin + Phenylpropanolamine</strong></td>
</tr>
<tr>
<td><strong>Nuelin/Nuelin SR</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate +/- Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate +/- Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate + Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Valium</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate +/- Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate + Paracetamol</strong></td>
</tr>
<tr>
<td><strong>Sinecod Forte</strong></td>
<td><strong>Dextromethorphan + Phenylpropanolamine + Chlorphenamine maleate + Paracetamol</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decongestants</th>
<th>Chlorphenamine maleate + Dextromethorphan + Guaifenesin + Phenylpropanolamine</th>
</tr>
</thead>
</table>

Learn to access drug info on your cellphone. Send PPD to 2600 for Globe/Smart/Sun users.
Management of Childhood Illnesses

Myracof-AF
Chlorphenamine maleate + Dextromethorphan + Guaifenesin + Paracetamol + Phenylpropanolamine
Myracof-T

Diphenhydramine
Allerin AH
Benadryl
Hizon Diphenhydramine Injection
Sonaphen

Diphenhydramine + Phenylpropanolamine
Guaifenesin + Chlorphenamine maleate + Sodium citrate + Phenylpropanolamine + Oxeladine citrate
Altussan

Guaifenesin + Chlorphenamine maleate + Phenylpropanolamine
Diphenhydramine
Allerin AH
Benadryl
Hizon Diphenhydramine Injection
Sonaphen

Soniphen
Diphenhydramine + Phenylpropanolamine
Guaifenesin + Chlorphenamine maleate + Sodium citrate + Phenylpropanolamine + Oxeladine citrate
Altussan

Mucokinetics/Expectorant
Acetylcysteine
Flumucil
Ambroxol
Ambrolex
Amelex
Ativex
Broxan
Expel
Mucosol
Mucosolvan
Mucovis
Ritemed Ambroxol
Sinecod EXP
Strepsis Chesty Cough
Ventize
Xambrex Capsule/Syrup
Zircam
Bromhexine
Bisolvon
Bronchorex
Mucosform (elixir)
Bromhexine + Ornicprenaline
Bisolpent
Carbocisteine
Carbonax
Flexicof
Foramex
Loviscol
Pediaplex
Pharex Carbocisteine
Phiegmol
Robikids
Solmux
Zylotin
Cyclidrol
Erdosteine
Ectrin
Zertin
Guaifenesin
Benadryl Expectorant
Robitussin
Robitussin Softgel Capsule
Guaifenesin + Chlorpheniramine
Eurocof
Guaifenesin + Chlorpheniramine maleate+ phenylpropanolamine hydrochloride
Lanox
Guaifenesin + Salbutamol
Asbunyl Plus
Asmalin Broncho
Broncaire Expectorant
Bronchomed
Intasma Expectorant
Neovent
Pediavent
SGX
Ventolin Expectorant
Ventar Expectorant
Guaifenesin + Sodium citrate
Lagundi
Ascof/Ascof Forte
Lagundex
Mesor
Salbutamol + Carbocisteine
Solmux Broncho (Reformulated)
Other Cough & Cold Preparation
Herbycin Syrup
Sinupret

ENT Drugs
Anti-infectives & Antiseptics
Chloramphenicol
Alphagram
Celsus Chloramphenicol Ear Drops
Medopit 5% Otic Solution
Ciprofloxacin
Celsus Ciprofloxacin Ear Drops
Polymixin B sulfate
Flucinolone + Polymixin B sulfate + Neomycin
Aplosyn Otic
Synalar Otic
Hydrocortisone + Polymixin B Sulfate + Neomycin
Cortisporin
Ircos
Gentamicin
Garamycin
Kontar 0.3% Ophthalmic/Otic Solution
Otic Solution
Ophagen
Gentamicin + Betamethasone
Garasone
Ofloxacin
Celsus Ofloxacin Ear Drops
Cinoflox Otic Solution
Inoflox Otic Drops
Iquinol Otic
Polymixin B SO₄ + Lidocaine
Lignosporin
Supravis
Polymixin B SO₄ + Neomycin + Dexamethasone
Celsus Polymyxin B + Neomycin + Dexamethasone Ear Drops
Neotic Otic Solution
Rapidax Otic Solution
Syntemax Otic

Triamcinolone
Oramedy Alis Singaw
Triamcinolone + Neomycin + Gramicidin + Nystatin
Quadcomb

Fluids/Electrolytes
Dextrose in Water
LVP D:W
LVP D:W
Maintesol
Lactated Ringer’s Solution
B. Braun Lactated Ringer’s Solution
Medisol Hartmann’s Normal Saline Solution
B. Braun Sodium Chloride 0.9%
Soln for Injection
Hizon 0.9% Sodium Chloride
Oral Rehydration Salts
Glucolyte
Glucost R
Hydrite Tablet
Hydrite Granules (Reformulated)
Kalium Durules
Pedialyte 45 /75 /90 /Mild 30
Sodalite

Anti-infectives
Penicillins
Amoxicillin
Amoxil
Amoxicillin Trihydrate Sandoz
<table>
<thead>
<tr>
<th>Management of Childhood Illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearamox</td>
</tr>
<tr>
<td>Globamox</td>
</tr>
<tr>
<td>Globapen</td>
</tr>
<tr>
<td>Himox</td>
</tr>
<tr>
<td>Lewixin</td>
</tr>
<tr>
<td>Medimoxil</td>
</tr>
<tr>
<td>Medvox</td>
</tr>
<tr>
<td>Pediamox</td>
</tr>
<tr>
<td>Pharex Amoxicillin</td>
</tr>
<tr>
<td>Ritemed Amoxicillin</td>
</tr>
<tr>
<td>Teramoxyl</td>
</tr>
<tr>
<td>Trexil</td>
</tr>
<tr>
<td>Valzimox</td>
</tr>
<tr>
<td>Yugoxxl</td>
</tr>
<tr>
<td>Zedroxyn</td>
</tr>
<tr>
<td>Zyvoxyl</td>
</tr>
<tr>
<td><strong>Ampicillin</strong></td>
</tr>
<tr>
<td>Ampicin</td>
</tr>
<tr>
<td>Clisod</td>
</tr>
<tr>
<td>DLI Ampicillin</td>
</tr>
<tr>
<td>Eurocin</td>
</tr>
<tr>
<td>Excilin</td>
</tr>
<tr>
<td>Panacta</td>
</tr>
<tr>
<td>Pentrexyl</td>
</tr>
<tr>
<td>Polyopen</td>
</tr>
<tr>
<td>Vatacil</td>
</tr>
<tr>
<td><strong>Benzylicillin sodium</strong></td>
</tr>
<tr>
<td>Claxacillin</td>
</tr>
<tr>
<td>Avastoph</td>
</tr>
<tr>
<td>Cloxal</td>
</tr>
<tr>
<td>Cloxil</td>
</tr>
<tr>
<td>Lewinex</td>
</tr>
<tr>
<td>Mediclox</td>
</tr>
<tr>
<td>Medix</td>
</tr>
<tr>
<td>Oxacelin</td>
</tr>
<tr>
<td>Pannox</td>
</tr>
<tr>
<td>Pharex Cloxacillin</td>
</tr>
<tr>
<td>Ritemed Cloxacillin</td>
</tr>
<tr>
<td><strong>Co-Amoxiclav</strong></td>
</tr>
<tr>
<td>Addex</td>
</tr>
<tr>
<td>Alvonal</td>
</tr>
<tr>
<td>Amocin</td>
</tr>
<tr>
<td>Augmentin</td>
</tr>
<tr>
<td>Bactv</td>
</tr>
<tr>
<td>Bactoclav</td>
</tr>
<tr>
<td>Bioclav</td>
</tr>
<tr>
<td>Bioclavid</td>
</tr>
<tr>
<td>Clavace</td>
</tr>
<tr>
<td>Clavoxel</td>
</tr>
<tr>
<td>Clavoxin</td>
</tr>
<tr>
<td>Co-Ax</td>
</tr>
<tr>
<td>Enhaxom</td>
</tr>
<tr>
<td>Euroclav</td>
</tr>
<tr>
<td>Koact</td>
</tr>
<tr>
<td>Nahaltin</td>
</tr>
<tr>
<td>Natravox</td>
</tr>
<tr>
<td>Rafonex</td>
</tr>
<tr>
<td>Ritemed Co-Amoxiclav</td>
</tr>
<tr>
<td>Sullivan</td>
</tr>
<tr>
<td>Vamox</td>
</tr>
<tr>
<td>Xovax</td>
</tr>
<tr>
<td><strong>Fluoxacillin</strong></td>
</tr>
<tr>
<td>Staffoxin</td>
</tr>
<tr>
<td><strong>Oxacillin</strong></td>
</tr>
<tr>
<td>Oxatalis</td>
</tr>
<tr>
<td>Wydax</td>
</tr>
<tr>
<td><strong>Phenoxymethenylpenicillin potassium</strong></td>
</tr>
<tr>
<td>Sumapen</td>
</tr>
<tr>
<td><strong>Sultamicillin (Subbactam/Ampicillin)</strong></td>
</tr>
<tr>
<td>Ambacitam</td>
</tr>
</tbody>
</table>

www.TheFilipinoDoctor.com I Sign up and open your clinic to the world.
Management of Childhood Illnesses

Sulperazone
Cefpodoxime
Ceftriaxone
Cefadox (OEP)
Zefo
Ceftazidime
Ceftazivit
Fortum
Onewazid
Pharex Ceftazidime Powder for Inj
Sefta
Spekix
Tazim
Zęprijen
Cefitoximine
Unixoix
Ceftriaxon
Bactrias
Ceftrialis
Cepner
Cotenzo
Eluxone
Forgram
Keptrix
Megion
Onelix
Pantrixo
Pharex Ceftriaxone Powder for Inj
Pneumosolv
Retrokor
Rocephin
Setroz
Supraxone
Torocef
Triaxon Plus
Tricexone
Trius
Ty-Oxone
Fourth Generation
Cefepime
Axora
Cepiram
Dimipra
Forcepime
Pozineg 1000
Sanpime
Vipfelime

Macrolides
Azithromycin
Az-li-200/Azi-500
Aztrocin
Azyth
Geozit
Stilmax
Zenith
Zenith Powder for Suspension
Zithromax
Zmax One Dose

Clarithromycin
Claranta
Clarie DS 125/250
Clarigel/Clariget OD
Clarithrocid
Clarithromycin Sandoz
Clarithrophil
Galemin
Hamun
Klare
Klargen
Klaricid/Klaricaid OD
Klarimac
Klarmyn
Klaryz
Klaz

Larizin
Maclar
Maxulid
Onexid
Oracid
Pharex Clarithromycin
Ritemed Clarithromycin
Ritromax
Winthrop Clarithromycin
Erythromycin
Almycin
Ilosone/Ilosone DS
Pharex Erythromycin
Roxithromycin
Roxid
Roxithro
Rox-150
Rolid
Ruthison
Thromyn
Winthrop Roxithromycin
Spiramycin
Rovamin
Lincomycin

Lincosamines
Clindamycin
Clnbac
Clndal
Clindamit
Clz
Dalacin C HCI/Dalacin C
Palmitate/Dalacin C
Phosphate
Klinindex
Pharex Clindamycin
Potecin

Sulfonamide Combinations
Cotrimoxazole
Bactile-TS
Bactrim
Chromo-Z
Globaxol
Katrim
Lagatrim Forte
Macromed
Onetrim
Pediatrim/Pediatrim DS
Pharex Cotrimoxazole
Rimzone/Rimzone Forte
Septrin/Septrin Forte
Tricomend
Trim-S
Trisal-960
Trizole Suspension

Tetracyclines
Doxycycline
Doxin
Vibramycin
Oxytetracycline
Lymecycline
Tetralysal
Tetracycline
Ritemed Tetracycline

Antihelminthics
Albendazole
Zentel
Mebendazole
Antiox
Pyrantel embonate
Cobantrin
Pyrantel + Oxantel embonate

Quantrel

Vitamins and Minerals, and Iron Preparations
Hematinics
Brofesol
Cherifer
Children's Clusivol
Dupharon
Encifer
Feosol Spansule
Fergesol
Ferglobin
Ferlin
Ferroplex
Foralvit
Fortameier
Fortifer FA
Hemamare/Hemamare FA
Hemobion
Hemovin
Iberet Active
Iberet Kids
Incremin w/ Iron
Macrobex w/ Iron
Maxifol 5000
Micron-C
Nakaron
Orofer
Prenarex Plus
Purfol
Rhea Ferrous Sulfate
Sangobion
Sorbinfer Durules
Terraferon
TLC Vita-OB
Trev-Iron Plus
Trihemic
United Home Forsulfate Iron
Venofer
Vife-Z
Vitanerv
Xyloper

Vitamin C
Ascorce
C-4 Kids
Cecon
Ceelin
Ceetrus
Cetrinets Fruteez
Cetrinets Hello Kitty
Champs C Chewable Vitamin C
Tablet
Clusivol Power C
Dayceee
Delivit-C
Euroceee
Incee-Vit
Nutricee
Pediafortan C
Pedceee
Pedzcinc Plus C
Poten-Cee
Rhea Ascorbic Acid
RiteMED Ascorbic Acid
United Home Ascorbic Acid

Vitamins & Minerals
Appebon Kid Syrup
Batamin Kids Syrup
Bio-Termi Plus w/ Lecithin
Bornvital Multivitamins for Kids
Brain Zee Plus Taurine + Vitamin C w/ Zinc Food Supplement Syrup
Cecon Junior
Ceezinc
Management of Childhood Illnesses

DPT/OPV
Adacel
Anatetall
Boostrix
Imatet
Imovax Polio
Infanrix
Infanrix Hexa
Pentaxim
Polioral
Polprotec
TD-Pur
Tetavax
Tetox 40 IU
Tetract-HIB
Tetraxim
Tritanrix-HB

Hepatitis A & B
Amvax B
Avaxim 160
Avaxim 80 Pediatric
Engerix-B
Epaxal
Euvax B
Havrix 1440 Adult/720 Junior
Hepavax Gene
Hepavax Gene TF
Mevac - A
Quinvaxem
Recomvax B
Shanvac-B
Temrevac-HB
Twinrix Adult/Twinrix Junior
Zadaxin

Influenza
Fluarix
Influvax 2010
Vaxigrip

Measles, Mumps, Rubella (MMR)
Priorix/Priorix-Tetra
Rouvax
Trimovax

Passive Immunization Agents
DPT
Antitet 1500 IU
Antitet 3000 IU
Antitet 5000 IU
Ig Tetano
Sero-tet
Sharjvac
Tetagam P
Tetanae

Hepatitis A/ B
Hepabig

Champs M Chewable Multivitamins Tablett
Champs M Lysine Chewable Tablet
Cherifer Drops w/ Taurine & CGF
Cherifer Forte Syrup w/
  Taurine and CGF Plus Zinc
Cherifer Forte Syrup w/
  Taurine & Double CGF
Cherifer Immunomax Syrup
Cherifer PGM 10-22 w/ High CGF
Cherifer PGM 10-22 w/ Zinc
Cherifer Syrup w/ Taurine and CGF
Cherifer Syrup with Taurine,
  Lysine and CGF
Cherifer Syrup w/ Zinc
Children's Clusivol
Chlorvytol
Clusivol Drops
Dream Vite GLF Food Supplement
  Syrup with Zinc
Dr. S. Wong’s Tiki-Tiki Syrup
  (Oral Drops)
Ener A Plus/ Ener A Plus Syrup
Enersel Forte with Taurine, Lysine, CGF & VCO
Enervon Drops
Enervon-C Plus Syrup
Enouvim
E-Zinc
Ferlin
Growee
Hi-Smart Vitamins & Minerals with
  Zinc, Taurine & Lysine
Kiddie Estamin Vitamins Syrup/
  Kiddie Estamin with Chlorella
  Growth Factor
Kiddie-Whiz Multivitamins Food
  Supplement Syrup (Choco Flavor)
Kiddirel
Kiddiovit
Macrobee w/ Lysine
Medgivist Syrup
Molvite w/ Iron
Nutrazinc Vitamins with Lysine,
  Chlorella Growth Factor, Taurine and
  Zinc Syrup Nutrilin Drops
Nutrilin Syrup
Nutroplex w/ Iron and
  Lysine Syrup
Pediafortan Drops/Forte/GE
Pharex Vitamin Syrup for Kids
Pharmaton Kiddi
Poly-Vi-Flor
Poly-Vi-Sol
Polyerv Syrup
Propan Syrup
Regeron Vita w/ Chlorella
Richeavit
Supplemin-C Drops/
  Supplemin-C Syrup
TLC Vita Drops
Taurex
United American Tiki-Tiki
  Plus Vitamin Drops
United American Tiki-Tiki
  Star Syrup
Vita-SL Plus
Z-Vita
Zincbee
Zoiron

Active Immunization Agents
(Vaccines)
Cholera
Dukoral

Learn to access drug info on your cellphone. Send PPD to 2600 for Globe/Smart/Sun users.