ALMANACH:

A new ALgorithm for the MANAgement of CHildhood illnesses

For children aged 2 months up to 5 years

PeDiAtrick project 2009 - 2012
HOW TO USE ALMANACH
1. Check for GENERAL DANGER SIGNS: If any general danger sign present: give PRE-REFERRAL TREATMENT and REFER urgently to hospital P 1-2
2. If no danger sign are present: Assess the presence of fever:
   - For a child with febrile disease: Follow instructions in ‘ASSESSMENT OF FEBRILE ILLNESS’ chart P 3-5
   - For a child with no fever nor history of fever in the current illness: Follow instructions in ‘ASSESSMENT OF NON FEBRILE ILLNESS’ chart P 7-8
4. TREAT THE CHILD according to diagnoses identified in the assessment chart P 10-17

TABLE OF CONTENTS

Assessment and treatment for VERY SEVERE DISEASES
   - Check for GENERAL DANGER SIGNS ........................................................................................................ 1
   - Instructions for pre-referral treatment for VERY SEVERE DISEASE .......................................................... 2

ASSESSMENT AND CLASSIFICATION
   - Does the child have fever? ......................................................................................................................... 1

Assessment of FEBRILE childhood illnesses
   - Does the child have COUGH or DIFFICULT BREATHING? ..................................................................... 3
   - Does the child have DIARRHOEA? .......................................................................................................... 3
   - Does the child have an EAR PROBLEM? .................................................................................................. 4
   - Has the child had MEASLES now or in the past 3 months? .................................................................... 4
   - Does the child have INFECTED SKIN LESION? ...................................................................................... 4

   For children with no identified causes of fever .......................................................................................... 5

Assessment of NON-FEBRILE childhood illnesses:
   - Does the child have cough or difficult breathing? ................................................................................... 7
   - Does the child have DIARRHOEA? ........................................................................................................... 7
   - Does the child have an EAR PROBLEM? .................................................................................................. 8

   Does the child have INFECTED SKIN LESION? ..................................................................................... 8

MANAGEMENT AND TREATMENT
   - Table of contents ........................................................................................................................................ 10

Management of COUGH related diagnoses
   - Severe pneumonia, Persistent cough or Recurrent wheezing, Pneumonia, ...................................................... 11
   - Upper respiratory tract infection, Symptomatic treatment for wheezing and cough ....................................... 11

Management of FEVER related diagnoses
   - Persistent fever, Malaria, Urinary tract infection, Abdominal infection ....................................................... 12
   - Symptomatic treatment for fever ............................................................................................................. 12

Management of DIARRHOEA related diagnoses
   - Severe dehydration, Severe persistent diarrhoea, Persistent diarrhoea, Dysentery, ................................. 13
   - Acute diarrhoea with some dehydration, Acute diarrhoea with no dehydration .......................................... 13
   - Hydration plan A, B and C ....................................................................................................................... 14

Management of EAR related diagnoses
   - Mastoiditis, Acute febrile ear discharge, Non febrile ear discharge, ......................................................... 15
   - Chronic ear discharge, Acute ear infection, Clear the ear by dry wicking ................................................... 15

Management of ANAEMIA ......................................................................................................................... 15

Management of MEASLES related diagnoses
   - Severe measles, Measles with mouth or eye complication, Measles ......................................................... 16

Management of SKIN related diagnoses
   - Severe soft tissue infection, Soft tissue infection, Impetigo or minor abscess .......................................... 16

ADDITIONNAL INFORMATION
   - Use of a spacer ........................................................................................................................................... 17
   - Weight-for-age charts ............................................................................................................................... 17
**Management of Very Severe Diseases**

**Check for General Danger Signs**

Is the child:

- **Convulsing now?**
  - No
  - Yes → **Give: Anticonvulsant (Diazepam)** → See instructions p.2

- **Having any General Danger sign?**
  - No
  - Yes → Very severe disease: The child needs **URGENT REFERRAL TO HOSPITAL**
    - **Give PRE-REFERRAL TREATMENT:**
      - First dose of IM Ampicillin + Gentamicin
      - IM Quinine
      - Low blood sugar prevention
    - **Refer for assessment**

- **Does the child have some Pallor?**
  - No
  - Yes → **Anemia** → See instructions p.15

- **Does the child have Fever?**
  - By history Or feels hot Or axillary’s temperature above 37.5°C
  - Yes → **Duration of fever?**
    - Less than 7 days
      - Go to page 3: Assessment of febrile acute illnesses
    - 7 days or more
      - Persistent fever → Refer for assessment → Exit
    - No
      - Go to page 7: Assessment of acute non febrile illnesses
  - No

If you reach this sign, you should refer the child without completing the assessment.
If nothing is specified you have to complete the entire assessment before prescribing appropriate treatment.
ANTIBIOTIC: AMPICILLINE (50 mg/kg) + GENTAMICIN (7.5 mg/kg)

**Ampicilline** for Very severe diseases and Severe pneumonia

**Preparation** Check the vial: AMPICILLINE 500mg/0.4ml. Dilute the 500 mg vial in 2.1ml of sterile water. You have now 2.5ml of a solution with 200mg/ml.

Where there is a strong suspicion of meningitis, the dose of ampicillin can be increased 4 times. IF REFERRAL IS NOT POSSIBLE OR DELAYED, repeat the ampicillin injection every 6 hours.

**Gentamicin** for Very severe diseases and Severe pneumonia

**Preparation** Check the vial: GENTAMICIN 40mg/ml, 2ml. You have 80mg of Gentamicin in a 2ml solution. IF REFERRAL IS NOT POSSIBLE OR DELAYED, repeat the gentamicin injection once daily.

<table>
<thead>
<tr>
<th>ANTIBIOTIC: AMPICILLINE (50 mg/kg) + GENTAMICIN (7.5 mg/kg)</th>
<th>AMPICILLIN 500 mg vial</th>
<th>GENTAMICIN 80mg in 2ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampicilline for Very severe diseases and Severe pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Preparation</strong> Check the vial: AMPICILLINE 500mg/0.4ml. Dilute the 500 mg vial in 2.1ml of sterile water. You have now 2.5ml of a solution with 200mg/ml. Where there is a strong suspicion of meningitis, the dose of ampicillin can be increased 4 times. IF REFERRAL IS NOT POSSIBLE OR DELAYED, repeat the ampicillin injection every 6 hours.</td>
<td><strong>AMPICILLIN 500 mg vial</strong></td>
<td><strong>GENTAMICIN 80mg in 2ml</strong></td>
</tr>
<tr>
<td>Gentamicin for Very severe diseases and Severe pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Preparation</strong> Check the vial: GENTAMICIN 40mg/ml, 2ml. You have 80mg of Gentamicin in a 2ml solution. IF REFERRAL IS NOT POSSIBLE OR DELAYED, repeat the gentamicin injection once daily.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**QUININE** (10mg/kg)

**Preparation** Check the ampoule: do you have: - QUININE 150mg/ml (300mg in 2 ml) or - QUININE 300mg/ml (600mg in 2 ml)

IF REFERRAL IS NOT POSSIBLE OR DELAYED, The child should remain lying down for one hour. Repeat the quinine injection 8 hourly, until the child is able to take oral antimalarial, but not more than one week.

<table>
<thead>
<tr>
<th>QUININE (10mg/kg)</th>
<th>INTRAMUSCULAR QUININE</th>
<th>150mg*/ml</th>
<th>300mg*/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation</strong> Check the ampoule: do you have: - QUININE 150mg/ml (300mg in 2 ml) or - QUININE 300mg/ml (600mg in 2 ml)</td>
<td><strong>INTRAMUSCULAR QUININE</strong></td>
<td><em><em>150mg</em>/ml</em>*</td>
<td><em><em>300mg</em>/ml</em>*</td>
</tr>
<tr>
<td>4 - &lt;6 kg (2 to &lt;4 months)</td>
<td>0.4 ml</td>
<td>0.2 ml</td>
<td></td>
</tr>
<tr>
<td>6 - &lt;10 kg (4 to &lt;12 months)</td>
<td>0.6 ml</td>
<td>0.3 ml</td>
<td></td>
</tr>
<tr>
<td>10 - &lt;12 kg (12 mths to &lt;2 years)</td>
<td>0.8 ml</td>
<td>0.4 ml</td>
<td></td>
</tr>
<tr>
<td>12 - &lt;14 kg (2 years to &lt;3 years)</td>
<td>1.0 ml</td>
<td>0.5 ml</td>
<td></td>
</tr>
<tr>
<td>14 - 19 kg (3 years to &lt;5 years)</td>
<td>1.2 ml</td>
<td>0.6 ml</td>
<td></td>
</tr>
</tbody>
</table>

**PREVENT LOW BLOOD SUGAR**

If the child is able to breastfeed: Ask the mother to breastfeed the child.
If the child is not able to breastfeed but is able to swallow: Give expressed breast milk or a breast-milk substitute.
If neither of these is available, give sugar water*. Give 30 - 50 ml of milk or sugar water* before departure.
If the child is not able to swallow: Give 50 ml of milk or sugar water* by nasogastric tube.

* To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water.

**ANTICONVULSANT: DIAZEPAM** (0.5 mg/kg)

**Instructions** Turn the child to his/her side and clear the airway. Avoid putting things in the mouth.
Give diazepam solution per rectum using a small syringe without a needle (like a tuberculin syringe) or using a catheter.
Check for low blood sugar, then treat or prevent.
Give oxygen and REFER.
If convulsions have not stopped after 10 minutes repeat diazepam dose once.

<table>
<thead>
<tr>
<th>ANTICONVULSANT: DIAZEPAM (0.5 mg/kg)</th>
<th>DIAZEPAM</th>
<th>10mg/2mls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;5 kg (&lt;6 months)</td>
<td>0.5 ml</td>
</tr>
<tr>
<td></td>
<td>5 - &lt;10 kg (6 to &lt;12 months)</td>
<td>1 ml</td>
</tr>
<tr>
<td></td>
<td>10 - &lt;14 kg (12 months to &lt;3 years)</td>
<td>1.5 ml</td>
</tr>
<tr>
<td></td>
<td>14 - 19 kg (3 years to &lt;5 years)</td>
<td>2 ml</td>
</tr>
</tbody>
</table>
ASSESSMENT OF FEBRILE CHILDHOOD ILLNESSES

Cough or Difficult Breathing?

- Chest Indrawing or Stridor in a calm child?
  - No
  - Yes
    - Wheezing?
      - No
      - Yes
        - Give inhaled bronchodilators, and assess response after up to 3 cycles
          - No response
            - Good response
              - Persistent cough or Recurrent wheezing?
                - No
                - Yes
                  - Cough for more than 3 weeks or recurrent wheezing?
                    - No
                    - Yes
                      - Count the breath in one minute, when the child is calm
                        - RR above 50/min
                          - Yes
                            - Severe pneumonia
                              - GIVE PRE-REFERRAL TREATMENT
                                - IM Ampicillin + Gentamicin (see p. 2)
                                - If wheezing: Bronchodilators
                                - Perform a malaria test: if positive
                                - Give IM Quinine (see p. 2)
                                - REFER URGENTLY
                          - No
                            - Persistent diarrhoea
                              - Refer for assessment
                            - Wheezing episode
                              - See instructions p. 11
                            - Upper respiratory tract infection
                              - See instructions p. 11

  - Yes
    - Wheezing?
      - No
      - Yes
        - Give inhaled bronchodilators, and assess response after up to 3 cycles
          - No response
            - Good response
              - Persistent cough or Recurrent wheezing?
                - No
                - Yes
                  - Cough for more than 3 weeks or recurrent wheezing?
                    - No
                    - Yes
                      - Count the breath in one minute, when the child is calm
                        - RR above 50/min
                          - Yes
                            - Severe pneumonia
                              - GIVE PRE-REFERRAL TREATMENT
                                - IM Ampicillin + Gentamicin (see p. 2)
                                - If wheezing: Bronchodilators
                                - Perform a malaria test: if positive
                                - Give IM Quinine (see p. 2)
                                - REFER URGENTLY
                          - No
                            - Persistent diarrhoea
                              - Refer for assessment
                            - Wheezing episode
                              - See instructions p. 11
                            - Upper respiratory tract infection
                              - See instructions p. 11

- Wheezing?
  - Yes
    - Give inhaled bronchodilators, and assess response after up to 3 cycles
      - No response
        - Good response
          - Persistent cough or Recurrent wheezing?
            - No
            - Yes
              - Cough for more than 3 weeks or recurrent wheezing?
                - No
                - Yes
                  - Count the breath in one minute, when the child is calm
                    - RR above 50/min
                      - Yes
                        - Severe pneumonia
                          - GIVE PRE-REFERRAL TREATMENT
                            - IM Ampicillin + Gentamicin (see p. 2)
                            - If wheezing: Bronchodilators
                            - Perform a malaria test: if positive
                            - Give IM Quinine (see p. 2)
                            - REFER URGENTLY
                      - No
                        - Persistent diarrhoea
                          - Refer for assessment
                        - Wheezing episode
                          - See instructions p. 11
                        - Upper respiratory tract infection
                          - See instructions p. 11

- No
  - Yes
    - Assess hydration status
      - Two of: Lethargic/unconscious
        - Sunken eyes
        - Not able to drink/drinks poorly
        - Skin pinch very slow
          - Yes
            - Severe dehydration
              - GIVE PRE-REFERRAL TREATMENT
                - Hydration Plan C
                -Refer for assessment
          - No
            - Some dehydration
              - Diarrhoea 14 days or more
                - Yes
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                  - Acute diarrhoea with some dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                - No
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
              - Diarrhoea duration less than 14 days
                - Yes
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                - No
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                  - Acute diarrhoea with some dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
          - No
            - Not enough signs to classify as severe or some dehydration
              - Refer for assessment

Diarrhoea?

- No
  - Yes
    - Assess hydration status
      - Two of: Restless irritable
        - Sunken eyes
        - Drinks eagerly, thirsty
        - Skin pinch slow
          - Yes
            - Severe dehydration
              - GIVE PRE-REFERRAL TREATMENT
                - Hydration Plan C
                - Refer for assessment
          - No
            - Some dehydration
              - Diarrhoea 14 days or more
                - Yes
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                  - Acute diarrhoea with some dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                - No
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
              - Diarrhoea duration less than 14 days
                - Yes
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                - No
                  - Severe persistent diarrhoea
                    - Treat Dehydration (p. 13 & 14)
                    - Refer for assessment
                  - Acute diarrhoea with some dehydration
                    - See instructions p. 13
                  - Persistent diarrhoea
                    - See instructions p. 13
                  - Acute diarrhoea without dehydration
                    - See instructions p. 13
          - No
            - Not enough signs to classify as severe or some dehydration
              - Refer for assessment

Blood in the stool?

- Yes
  - Refer for assessment
- No
  - Complete assessment of febrile illnesses p. 4
Tender swelling behind the ear
- Yes
  - Mastoiditis
    - IM Ampicillin + Gentamicin (see p. 2)
    - Paracetamol for pain
    - if positive: Give IM Quinine (see p. 2)
    - REFER URGENTLY
  - Acute ear discharge
    - See instructions p. 15
  - Chronic ear discharge
    - See instructions p. 15
  - Acute ear infection
    - See instructions p. 15

- No
  - Pus draining from the ear
    - Yes
      - Less than 14 days
        - Acute ear discharge
          - See instructions p. 15
      - 14 days or more
        - Chronic ear discharge
          - See instructions p. 15
  - Ear pain
    - Yes
      - Severe complicated measles
        - IM Ampicillin + Gentamicin (see p. 2)
        - Vit A, Tetracycline eye o.
        - if positive: Give IM Quinine (see p. 2)
        - REFER URGENTLY
      - Measles with complications
        - See instructions p. 16
    - No
      - Pus draining from the eye or Mouth ulcer
        - Yes
          - Severe soft tissue or muscle infection
            - Oral Cloxacillin (see p. 16)
            - REFER URGENTLY
          - Impetigo or minor abscess
            - See instructions p. 16
        - No
          - Measles
            - See instructions p. 16

- No
  - MEASLES Now or within last 3 months?
    - Yes
      - Generalized rash
        - + one of the following:
        - Cough, Runny nose, Red eyes
        - Perform a malaria test: if positive: Give IM Quinine (see p. 2)
        - REFER URGENTLY
    - No
  - INFECTED SKIN LESION OR LUMP?
    - Yes
      - Size above 4cm? Multiple abscesses?
        - Yes
          - Severe soft tissue or muscle infection
            - Oral Cloxacillin (see p. 16)
            - REFER URGENTLY
          - Impetigo or minor abscess
            - See instructions p. 16
        - No
          - Is the lesion red, tender, warm, with pus or crusts?
            - Yes
              - Impetigo or minor abscess
                - See instructions p. 16
            - No
              - UNCLASSIFIED SKIN CONDITION:
                - No need for antibiotics
    - No
      - UNCLASSIFIED EAR PROBLEM:
        - No need for antibiotics

Complete assessment of febrile illnesses p. 5
After this assessment if the child has fever with no identified cause, perform the following:

For children aged 2 months up to less than 2 years:

- Urine dipstick
  - Leucocytes OR Nitrites positive: Urinary tract infection (UTI) See instructions p. 12
  - Leucocytes AND Nitrites negative: No Urinary tract infection
- If dysuria

For children aged 2 years up to 5 years:

- Abdominal palpation
  - Abdominal tenderness: Possible intestinal bacterial disease See instructions p. 12
  - Normal: Bacterial disease unlikely

If you answered NO to all the questions, the child has fever with no obvious cause, no danger sign, and the malaria test is negative. The child is likely to have a Viral infection. S/he does NOT need neither antibiotic nor antimalarial. Prescribe symptomatic treatment for fever (see page 12). Reassure the caretaker and advise him/her to return immediately if the child is not able to drink or becomes sicker. Advise him/her to come back after 2 days if fever persists.

**FOR ALL CHILDREN WITH FEVER OR HISTORY OF FEVER: CONSIDER MALARIA**

**CONSIDER MALARIA: Perform a malaria Rapid Diagnosis Test (mRDT)**

If mRDTs are not available, perform a blood-slide.

- Positive: Malaria See instructions p. 12
- Negative: No Malaria

**ASSESSMENT OF FEBRILE CHILDHOOD ILLNESSES**

After completing this thorough assessment you may have one or several diagnoses for a child. You will find the recommendations for treatment and additional measures for the management of childhood illnesses in pages 10 to 18.
ASSESSMENT OF NON FEBRILE CHILDHOOD ILLNESSES

COUGH OR DIFFICULT BREATHING?
- Chest Indrawing OR Stridor in a calm child?
  - Yes: Severe pneumonia
    - GIVE PRE-REFERRAL TREATMENT: IM Ampicillin + Gentamicin
    - Refer urgently
  - No: Wheezing?
    - Yes: Give inhaled bronchodilators, and assess response after up to 3 cycles
      - No response: Resistant wheezing
        - Refer to hospital
        - Continue inhaled bronchodilators
      - Good response: Persistent cough or Recurrent wheezing
        - Refer for assessment
    - No: Cough for more than 3 weeks or recurrent wheezing?
      - Yes: Upper respiratory tract infection
        - See instructions p. 11
      - No: Exit

DIARRHOEA?
- Assess hydration status
  - Two of: Lethargic/unconscious, Sunken eyes, Not able to drink/drinks poorly, Skin pinch very slow
    - Yes: Severe dehydration
      - GIVE PRE-REFERRAL TREATMENT: Hydration Plan C
        - If no improvement or not feasible: Refer urgently
    - No: Two of: Restless irritable, Sunken eyes, Drinks eagerly, thirsty, Skin pinch slow
      - Yes: Some dehydration
        - Diarrhoea duration: 14 days or more
          - Treat Dehydration (p. 13 & 14)
            - Refer for assessment
        - Diarrhoea duration: less than 14 days
          - Persistent Diarrhoea
            - See instructions p. 13
    - No: Not enough signs to classify as severe or some dehydration
      - No dehydration
        - Diarrhoea duration: 14 days or more
          - Acute diarrhoea without dehydration
            - See instructions p. 13
        - Diarrhoea duration: less than 14 days
          - Acute diarrhoea with some dehydration
            - See instructions p. 13

Blood in the stool?
- Yes: Dysentery
  - See instructions p. 13
- No: Complete assessment of non febrile illnesses p. 8
EAR PROBLEM?

Pus draining from the ear

Yes

Non febrile ear discharge

See instructions p. 16

No

UNCLASSIFIED EAR PROBLEM:

No need for antibiotics

Infected skin lesion or lump?

No

UNCLASSIFIED SKIN CONDITION: No need for antibiotics

Yes

Size above 4cm? Multiple abscesses? Associated with red streaks or tender nodes?

No

UNCLASSIFIED SKIN CONDITION: No need for antibiotics

Yes

Soft tissue infection or Folliculitis

See instructions p. 16

Is the lesion red, tender, warm, pus or crusts?

Yes

Impetigo or Minor abscess

See instructions p. 16

No

You have reached the end of the Almanach assessment for non febrile assessment.

After completing this thorough assessment you may have one or several diagnoses for a child. You will find recommendations for treatment and additional measures for the management of childhood illnesses in pages 10 to 18.
TABLE OF CONTENTS

General recommendations .................................................. 10
Management of COUGH related diagnoses Severe pneumonia, Persistent cough or Recurrent wheezing, Pneumonia .................................................................. 11
Upper respiratory tract infection .................................................................. 11
Symptomatic treatment for Wheezing and Cough ........................................ 11
Management of FEVER related diagnoses Persistent fever, Malaria, Urinary tract infection, Abdominal infection .................................................................. 12
Symptomatic treatment for fever .................................................................. 12
Management of DIARRHOEA related diagnoses Severe dehydration, Severe persistent diarrhoea, Persistent diarrhoea, Dysentery, Acute diarrhoea with some dehydration, Acute diarrhoea with no dehydration .................................................................. 13
Hydration plan A, B and C .................................................................. 14
Management of EAR related diagnoses Mastoiditis, Acute febrile ear discharge, Non febrile ear discharge, Chronic ear discharge .................................................................. 15
Acute ear infection .................................................................. 15
Clear the ear by dry wicking .................................................................. 15
Management of ANAEMIA related diagnoses .................................................. 15
Management of MEASLES related diagnoses Severe Measles, Measles with mouth or eye complication, Measles .................................................................. 16
Management of SKIN related diagnoses Severe soft tissue infection, Soft tissue infection, Impetigo or minor abscess .................................................................. 16
COMPLEMENTARY DOCUMENT Use of a spacer .................................................................. 17
Weight-for-age charts .................................................................. 17

GENERAL RECOMMENDATIONS

Always tell the caretakers the reason for giving the drug, and teach them how to give it at home if needed. Demonstrate how to prepare a dose, watch them preparing the first dose, explain carefully how to give the drug and to complete the treatment even if the child gets better. Check the caretakers’ understanding before they leave.

REASSURING THE CARETAKER when the RDT is negative

Reassure the caretaker that:
• the child does NOT have malaria
• the diagnostic test (RDT) is very accurate
• antimalarials will NOT help the child and you do not want to unnecessarily expose the child to side effects that may accompany these medications
**MANAGEMENT AND TREATMENT CHART FOR COUGH RELATED DIAGNOSES**

**Severe pneumonia or Very severe disease**
Give IM Ampicillin and Gentamicin *(see page 2 for instructions)*
Give inhaled bronchodilators if wheezing *(see below)*

REFER URGENTLY

**Resistant wheezing**
Continue inhaled bronchodilators, using a spacer, on the way to hospital *(see below)*

REFER URGENTLY

**Persistent cough or recurrent wheezing**
Refer to hospital for further assessment for Tuberculosis or Asthma

**Pneumonia**
Give Amoxicillin 25mg/kg, 2 times daily, for 5 days
Discuss HIV infection

Advertise care to:
- Come back immediately if the child is not able to drink or breastfeed, or becomes sicker
- Come back after 2 days if fever or difficult breathing persist

**Wheezing episode**
Treat the wheezing in the clinic following the symptomatic treatment instructions below. If the child has a good response to the treatment, and doesn’t need referral, continue the treatment at home:

- **At home:** continue treatment with inhaled salbutamol, 3 to 4 times a day, for 5 days.
- **If inhaler not available:** Use oral salbutamol (2 months up to 12 months: 1mg, 3 times daily; 2 months up to 4 years: 2mg, 3 to 4 times daily)

Advise care to:
- Come back immediately if the child is not able to drink/breastfeed, becomes sicker, or develops fever
- Come back if the wheezing/difficult breathing persists after treatment

**Upper respiratory tract infection (URTI)**
Explain the mother that the URTI is a viral disease that is self limiting

Advertise care to:
- Relieve cough and soothe the throat with breast milk for an infant breastfed, or with tea with lemon or tea with honey for an older child
- Come back immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever, or develops fast/difficult breathing or wheeze
- Come back after 5 days if the symptoms persist

**ADDITIONAL SYMPTOMATIC TREATMENTS**

**Wheezing:**
*In the clinic:* Give inhaled bronchodilators: Salbutamol, using a spacer *(See page 17)*: From salbutamol metered dose inhaler (100 µg/puff) give 2 puffs.
Reassess the child after 15 minutes. Repeat up to 3 times every 15 minutes before classifying pneumonia.

**Cough and/or sore throat:**
To relieve cough and soothe the throat recommend the caretaker to use the safe remedies below:
For an infant who is exclusively breastfed: breast milk
For other children: breast milk, tea with honey, tea with lemon.
**MANAGEMENT AND TREATMENT CHART FOR FEVER RELATED DIAGNOSES**

### Persistent fever

Refer to hospital for further assessment.

**Malaria**

Give ALu:
- Give first dose in the clinic and observe the child for one hour. If the child vomits within an hour repeat the dose.
- Tell the mother to give second dose after 8 hours and then 2 times daily for further 2 days as shown in the table.
- ALu should be given with food.

Give one dose of paracetamol in the clinic for high fever (38.5 and above).

Advise caretaker to:
- Come back immediately if the child is not able to drink or breastfeed, or becomes sicker
- Come back after 2 days if fever persists
- Always use insecticide treated mosquito net

<table>
<thead>
<tr>
<th>ALu (artemether + lumefantrine)</th>
<th>Tablet (artemether 20mg + lumefantrine 120mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0h 8h 24h 36h 48h 60h</td>
<td></td>
</tr>
<tr>
<td>5’ &lt;15 kg (2 months to &lt;3 years)</td>
<td>1 1 1 1 1 1</td>
</tr>
<tr>
<td>15 - &lt;25 kg (3 years to &lt;5 years)</td>
<td>2 2 2 2 2 2</td>
</tr>
</tbody>
</table>

*Children weighing less than 5 kg should be treated with Quinine Give Quinine tabs 300mg: 1/4, 3 times daily, for 7 days.

**Urinary tract infection (UTI)**

Give Ciprofloxacin 15mg/kg, 2 times a day, for 5 days

Advise caretaker to:
- Increase fluids
- Come back immediately if the child is not able to drink/breastfeed, or becomes sicker
- Come back after 2 days if fever persists

**Possible intestinal bacterial disease**

Give Ciprofloxacin 15mg/kg, 2 times a day, for 5 days

Advise caretaker to:
- Increase fluids
- Come back immediately if the child is not able to drink/breastfeed, or becomes sicker
- Come back after 2 days if fever persists

### SYMPTOMATIC MANAGEMENT AND TREATMENT FOR FEVER

**For all children with FEVER:**

Give first dose of paracetamol in the clinic if high fever (38.5°C and above)

Explain caretaker to:
- Expose the child (decrease or remove the clothes)
- Increase the fluids intake
- Give paracetamol, 15mg/kg, every 6 hours until high fever or pain is gone

<table>
<thead>
<tr>
<th>Paracetamol 15mg/kg</th>
<th>Syrup 120mg/5ml</th>
<th>Tablet 500mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4kgs</td>
<td>2ml</td>
<td>-</td>
</tr>
<tr>
<td>4-&lt;10 kg (2 months to &lt;1 year)</td>
<td>5ml</td>
<td>1/4</td>
</tr>
<tr>
<td>10-19 kg (1 year to &lt;5 years)</td>
<td>-</td>
<td>1/2</td>
</tr>
</tbody>
</table>
### MANAGEMENT AND TREATMENT CHART FOR DIARRHOEA RELATED DIAGNOSES

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Hydration Plan</th>
<th>Zinc* Treatment</th>
<th>Other Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe dehydration</td>
<td>Plan C</td>
<td></td>
<td>MUST refer urgently to hospital if Plan C not available in your health facility or the child does not improve after 3 hours of treatment</td>
</tr>
<tr>
<td>Severe persistent diarrhoea</td>
<td>Plan B</td>
<td></td>
<td>Must refer to hospital for further assessment</td>
</tr>
<tr>
<td>Acute diarrhoea with some dehydration</td>
<td>Plan B</td>
<td>Give zinc*</td>
<td>Advise caretaker: Continue feeding and give zinc*; Come back immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever, or blood in stool; Come back after 5 days if diarrhoea persists</td>
</tr>
<tr>
<td>Persistent Diarrhoea</td>
<td></td>
<td></td>
<td>Discuss HIV infection; Advise caretaker on feeding: Continue breastfeeding, and give more frequent, longer breastfeeds, day and night; If the child takes other milk: Replace with increased breastfeeding OR Replace with fermented milk products, such as yoghurt OR Replace half the milk with nutrient—rich semisolid food; Advise caretaker to come back: Immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever, or blood in stool; After 5 days if diarrhoea persists</td>
</tr>
<tr>
<td>Dysentery</td>
<td></td>
<td></td>
<td>Give Ciprofloxacin 15mg/kg, 2 times a day, for 3 days; Give hydration according to dehydration status and continue feeding; Advise caretaker to come back: Immediately if the child is not able to drink/breastfeed, becomes sicker, or develops fever; After 2 days if diarrhoea persists</td>
</tr>
<tr>
<td>Acute diarrhoea without dehydration</td>
<td>Plan A</td>
<td>Give zinc*</td>
<td>Advise caretaker to: Continue feeding and give zinc*; Come back immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever, or blood in stool; Come back after 5 days if diarrhoea persists</td>
</tr>
</tbody>
</table>

#### Ciprofloxacin Dosing

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 kg (less than 6 months)</td>
<td>1/4 of 250 mg tablet</td>
</tr>
<tr>
<td>6-14 kg (6 months to &lt;3 years)</td>
<td>1/2 of 250 mg tablet, 1/4 of 500 mg tablet</td>
</tr>
<tr>
<td>14-19 kg (3 years to &lt;5 years)</td>
<td>1 tablet of 500 mg tablet</td>
</tr>
</tbody>
</table>

### Zinc dosage

- **Give Zinc for 14 days to all children with diarrhoea:**
  - From 2 months up to 6 months: 1/2 tablet daily
  - 6 months or more: 1 tablet daily
  - Infants: dissolve tablet in a small amount of expressed breast milk, ORS or clean water in a cup.
  - Older children: tablets can be chewed or dissolved in a small amount of water.

### Instructions for Zinc Administration

- Infants: Dissolve 1/2 tablet in a small amount of ORS or clean water.
- Older children: Tablets can be chewed or dissolved in a cup.
**HYDRATION PLAN A**

Give extra fluids (as much as the child will take): Give more frequent, longer breastfeeds, and give ORS or clean water in addition to breast milk. If the child is not exclusively breastfed, also give food-based fluids (such as soup, rice water, and yoghurt drinks).

Give ORS at home especially when the child has been treated with Plan B or Plan C during this visit OR when the child cannot return to a clinic if the diarrhoea gets worse.

Teach the caretaker how to mix and give ORS: Give 2 packets of ORS. Show how much fluid to give in addition to the usual fluid intake. Tell her/him to give after each loose stool: 50 to 100ml for a child below 2 years of age, and 100 to 200ml for a child older than 2 years.

Give frequent sips from a cup. If the child vomits, wait 10 minutes. Then continue but more slowly. Continue giving extra fluid until the diarrhoea stops.

**HYDRATION PLAN B**

Give ORS at the clinic over a 4 hours period.

Determine recommended amount of ORS to give over a 4 hours period using the table aside. If the child wants more ORS than shown, give more.

Show caretaker how to give ORS solution: Give frequent small sips from a cup. If the child vomits, wait 10 minutes. Then continue, but more slowly.

Continue breastfeeding whenever the child wants.

After 4 hours: Reassess the child and classify the child for dehydration. Select the appropriate plan to continue treatment. Begin feeding the child in clinic.

Before the caretaker leaves the clinic give her/him all explanation on how to continue the treatment at home (see plan A).

**HYDRATION PLAN C: TREAT SEVERE DEHYDRATION QUICKLY:**

Follow the arrows. If answer is ‘YES’ go across. If ‘NO’ go down.

<table>
<thead>
<tr>
<th>Can you give intravenous (IV) fluid immediately?</th>
<th>Yes</th>
<th>Start IV fluid immediately. If the child can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer’s Lactate Solution (or, if not available, normal saline), divided as in table aside.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is IV treatment available nearby (within 30 minutes)?</td>
<td>Yes</td>
<td>Refer URGENTLY to hospital for IV treatment. If the child can drink, provide the mother with ORS solution and show her how to give frequent sips during the trip or give ORS by naso-gastric tube.</td>
</tr>
<tr>
<td>Are you trained to use a naso-gastric (NG) tube for hydration?</td>
<td>Yes</td>
<td>Start rehydration by tube (or mouth) with ORS solution: give 20 ml/kg/hour for 6 hours (total of 120 ml/kg). Reassess the child every 1-2 hours while waiting for transfer: If there is repeated vomiting or increasing abdominal distension, give the fluid more slowly. If hydration status is not improving after 3 hours, send the child for IV therapy. After 6 hours, reassess the child. Classify dehydration. Then choose the appropriate plan (A, B or C) to continue treatment.</td>
</tr>
<tr>
<td>Can the child drink?</td>
<td>Yes</td>
<td>Age (under 12 months) 1 hour* 5 hours Children (12 months up to 5 years) 30 minutes* 2 1/2 hours</td>
</tr>
<tr>
<td>AGE</td>
<td>First give 30 ml/kg in:</td>
<td>Then give 70 ml/kg in:</td>
</tr>
<tr>
<td>INFANTS (under 12 months)</td>
<td>Infants (under 12 months)</td>
<td>Infants (under 12 months)</td>
</tr>
<tr>
<td>1 hour*</td>
<td>Children (12 months up to 5 years)</td>
<td>Children (12 months up to 5 years)</td>
</tr>
<tr>
<td>2 1/2 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**

If the child is not referred to hospital, observe at least 6 hours after rehydration to be sure mother can maintain hydration giving the child ORS solution by mouth.
### MANAGEMENT AND TREATMENT CHART FOR EAR RELATED DIAGNOSES

**Mastoiditis**
- Give IM Ampicillin and Gentamicin *(see page 2 for instructions)*
- Give paracetamol for pain *(see p10)*
- REFER URGENTLY

<table>
<thead>
<tr>
<th>Acute febrile ear discharge</th>
<th>Give Amoxicillin 25mg/kg, 2 times daily, for 5 days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dry the ear by wicking*</td>
</tr>
<tr>
<td></td>
<td>Discuss HIV infection</td>
</tr>
<tr>
<td>Advise caretaker to come back:</td>
<td>immediately if the child is not able to drink or breastfeed, or becomes sicker after 5 days if ear discharge persists</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic ear discharge OR Non febrile ear discharge</th>
<th>Dry the ear by wicking* and instil quinolones eardrops just after wicking, 3 times daily, for 2 weeks. <em>(Quinolones eardrops may contain ciprofloxacin, norfloxacin or ofloxacin)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discuss HIV infection</td>
</tr>
<tr>
<td>Advise caretaker to come back:</td>
<td>immediately if the child is not able to drink or breastfeed, becomes sicker, or develops fever after 5 days if ear discharge persists</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute ear infection</th>
<th>Give paracetamol for pain <em>(see page 10)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advise caretaker to come back:</td>
<td>immediately if the child is not able to drink or breastfeed, or becomes sicker after 3 days if pain or fever persist</td>
</tr>
</tbody>
</table>

*Dry wicking to clear the ear of children with ear discharge*
- Dry the ear at least 3 times daily:
  - Wash hands.
  - Roll a clean absorbent cloth or soft, strong tissue paper into a wick.
  - Place the wick in the child’s ear. Remove the wick when wet.
  - Replace the wick with a clean one and repeat this steps until the ear is dry.

### MANAGEMENT AND TREATMENT CHART FOR ANAEMIA

**Anaemia**
- Give Iron*, 1 dose daily, for a total of 2 months
- Give Mebendazole 500mg single dose, if the child is one year or older and has not had a dose in the previous 6 months.
- Check Malaria: Perform a Rapid diagnostic test (RDT) and treat if positive *(see page 11)*
- Advise caretaker to come back: immediately if the child is not able to drink, becomes sicker, or develops fast breathing or fever after 14 days for re-assessment

<table>
<thead>
<tr>
<th>IRON</th>
<th>Ferrous sulfate 200 mg + 250 µg Folate (60 mg elemental iron)</th>
<th>Ferrous fumarate 100 mg per 5 ml (20 mg elemental iron per ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - &lt;6 kg (2 to &lt;4 months)</td>
<td>1.00 ml (&lt; 1/4 tsp.)</td>
<td></td>
</tr>
<tr>
<td>6 - &lt;10 kg (4 to &lt;12 months)</td>
<td>1.25 ml (1/4 tsp.)</td>
<td></td>
</tr>
<tr>
<td>10 - &lt;14 kg (1 to &lt;3 years)</td>
<td>1/2 tablet</td>
<td></td>
</tr>
<tr>
<td>14 - 19 kg (3 to &lt;5 years)</td>
<td>1/2 tablet</td>
<td></td>
</tr>
</tbody>
</table>

*Iron* 
- Ferrous sulfate 200 mg + 250 µg Folate (60 mg elemental iron) 
- Ferrous fumarate 100 mg per 5 ml (20 mg elemental iron per ml)
ALMANACH — ALGORITHM FOR MANAGEMENT OF CHILDHOOD ILLNESSES – V1.6 — CRA - 21st March 2012

MANAGEMENT AND TREATMENT CHART FOR MEASLES RELATED DIAGNOSES

**Severe complicated measles**
Give IM Ampicillin and Gentamicin (*see page 2 for instructions*)
Give Vitamin A and Tetracycline eye ointment (*see below*)
REFER URGENTLY

**Measles with eye or mouth complication**
Give vitamin A treatment (*See below*) to children from 6 months up to 5 years, except if the child has had a dose in the past month.
Give paracetamol for pain relief.

Treat eye infection with tetracycline eye ointment in both eyes, 4 times daily*: Clean both eyes. Wash hands, use clean cloth and water to gently wipe the pus.
Then apply tetracycline eye ointment: Squirt a small amount of ointment on the inside of the lower lid. Wash hands again. Treat until there is no pus discharge. Do not put anything else in the eyes.

Treat for mouth ulcers with Gentian Violet (GV) twice daily*: Wash hands. Wash the child's mouth with clean soft cloth wrapped around the finger and wet with salt water.
Paint the mouth with half-strength gentian violet (0.25% dilution). Wash hands again. Continue using gentian violet for 48 hours after the ulcers have been cured.

Advise caretaker to come back: Immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever
After 2 days if symptoms persist

**Measles**
Give Vitamin A treatment: Give a dose of Vitamin A to children from 6 months up to 5 years, except if the child has had a dose in the past month.

<table>
<thead>
<tr>
<th>AGE</th>
<th>Vitamin A dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 to &lt;12 months</td>
<td>100 000 IU</td>
</tr>
<tr>
<td>One year and older</td>
<td>200 000 IU</td>
</tr>
</tbody>
</table>

MANAGEMENT AND TREATMENT CHART FOR SKIN RELATED DIAGNOSES

**Severe soft tissue or muscles infection**
Give first dose of oral Cloxacillin (*see below*)
REFER TO HOSPITAL

**Soft tissue infection or folliculitis**
Give Cloxacillin, 25mg/kg, 4 times a day, for 5 days
Clean sores with antiseptic. Drain pus if fluctuance.

Advise caretaker to come back: After 1 day if symptoms persist
Immediately if the child is not able to drink, or becomes sicker.

**Impetigo or minor abscess**
Clean sores with antiseptic. Drain pus if fluctuance.

Advise caretaker to come back: Immediately if the child is not able to drink/breastfeed, becomes sicker, develops fever
After 2 days if symptoms persist

**Cloxacillin** 25mg/kg

<table>
<thead>
<tr>
<th>Weight</th>
<th>Syrup 125mg/5ml</th>
<th>Capsule 250 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - &lt;6 kg (2 to &lt;4 months)</td>
<td>5ml</td>
<td>1</td>
</tr>
<tr>
<td>6 - &lt;14 kg (4 mths to &lt;3 yrs)</td>
<td>10ml</td>
<td>1</td>
</tr>
<tr>
<td>14 - 19 kg (3 to &lt;5 years)</td>
<td>15ml</td>
<td>2</td>
</tr>
</tbody>
</table>

* For local treatments: Explain to the caretaker what the treatment is and how it should be given. Tell her/him how often to do the treatment at home. If needed, give caretaker the tube of tetracycline ointment or a small bottle of gentian violet.
USE OF A SPACER
A spacer is a way of delivering the bronchodilator drugs effectively into the lungs. NO CHILD UNDER 5 YEARS OF AGE SHOULD RECEIVE AN INHALER WITHOUT A SPACER. A spacer works as well as a nebuliser if correctly used.

Spacers can be made in the following way:
Use a 500ml drink bottle or similar. Cut a hole in the bottle base in the same shape as the mouthpiece of the inhaler, with a sharp knife. Cut the bottle between the upper quarter and the lower 3/4 and disregard the upper quarter of the bottle. Cut a small V in the border of the large open part of the bottle to fit to the child's nose and be used as a mask. Flame the edge of the cut bottle with a candle or a lighter to soften it. In a small baby, a mask can be made by making a similar hole in a plastic (not polystyrene) cup. Alternatively commercial spacers can be used if available.

To use an inhaler with a spacer*:
Remove the inhaler cap. Shake the inhaler well. Insert mouthpiece of the inhaler through the hole in the bottle or plastic cup. The child should put the opening of the bottle into his mouth and breath in and out through the mouth. A carer then presses down the inhaler and sprays into the bottle while the child continues to breath normally. Wait for three to four breaths and repeat. For younger children place the cup over the child's mouth and use as a spacer in the same way.

* If a spacer is being used for the first time, it should be primed by 4-5 extra puffs from the inhaler.