CAUSES OF CHILD DEATHS IN KENYA

Source: WHO, Global Data Repository, 2015 Mortality Data by Cause By Country
Trends in Childhood Mortality

Deaths per 1000 live births

- Neonatal mortality
- Under 5 mortality

2003 KDHS
2008-09 KDHS
2014 KDHS
SDG Targets
ASSESS AND CLASSIFY CHILD AGED 2 MONTHS TO 5 YEARS

CASE MANAGEMENT
INTRODUCTION TO THE CLASSIFICATION TABLES:

Reference: IMCI guidelines page 2

ASSESS & CLASSIFY the Sick child:

- Signs of illness
- Classification of illness

THREE ROWS with distinct colours for quickly identifying if:

- The child has a serious illness.
- The child needs urgent attention.
- The child needs treatment/intervention with drugs

COLOUR CODING:

- Pink = Severe Classification needing admission or referral
- Yellow = A classification needing treatment/intervention
- Green = Not serious, and in most cases no drugs are needed
UNIT I: COUGH OR DIFFICULT IN BREATHING
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define cough & difficulty in breathing
- Describe the prevalence and transmission

Background

- Assess & Classify
  - Assess the for breathing, central cyanosis & AVPU
  - Classify for Cough or difficulty in breathing
**Cough**: a rapid expulsion of air from the lungs, typically in order to clear the lung airways of fluid, mucus or other irritating material.

**Difficult in Breathing**: Breathlessness or shortness of breath. This is primarily an indication of inadequate ventilation or insufficient amount of oxygen in the blood.

**Pneumonia**: Respiratory infection that affects the lungs.

Source: WHO, 2016
**CURRENT SITUATION: PNEUMONIA**

**Prevalence: 9%**

- Pneumonia is one of the leading causes of death in children under 5 years
- Most children with cough or difficult breathing have only a cough or a cold
- A few children with cough or difficult breathing may also have pneumonia

**Data:**

<table>
<thead>
<tr>
<th>REGION</th>
<th>2008/9</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>North Eastern</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Eastern</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Central</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Rift Valley</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Western</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Nyanza</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Nairobi</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>National</td>
<td>8%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: WHO, 2016 & KDHS, 2014
A child’s susceptibility to pneumonia is increased by many factors for example: environmental factors, such as:

- Indoor air pollution caused by cooking & heating
- Living in crowded homes
- Parental smoking
Does the child have Cough or Difficult in Breathing?

NOTE: THE CHILD MUST BE CALM

IF YES, ASK

• For how long?

LOOK, LISTEN, FEEL

• Count the breaths in one minute
• Use respiratory rate timers where available
• Look for chest in drawing
• Look and listen for stridor
• Look and listen for wheeze
• Check for central cyanosis
• Check for oxygen saturation using pulse oximetry where available
• Check AVPU

IF THE CHILD IS

2 months up to 12 months
FAST BREATHING IS:
• 50 breaths per minute or more

12 months up to 5 years
FAST BREATHING IS:
• 40 breaths per minute or more

Note:
• Chest in-drawing is present if the lower chest wall moves in during inspiration
• Stridor- a harsh sound heard during inspiration
• Wheeze- a musical sound heard during expiration
• AVPU – Alert, Voice, Pain and Unresponsive
# ASSESSMENT OF PNEUMONIA

## SIGNS

<table>
<thead>
<tr>
<th>Any general danger sign OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen saturation less than 90%</td>
</tr>
<tr>
<td>Stridor in calm child.</td>
</tr>
<tr>
<td>Central Cyanosis</td>
</tr>
<tr>
<td>AVPU = V, P or U</td>
</tr>
</tbody>
</table>

## SEVERE PNEUMONIA OR VERY SEVERE DISEASE

- If oxygen saturation is less than 90%, start oxygen therapy and refer or admit.
- Give first dose of Benzyl Penicillin and Gentamicin (see pg 16)
- Treat for and to prevent low blood sugar. (see pg 17)
- Keep the child warm.
- Treat wheeze if present, admit or refer urgently to hospital (see pg 17).
- Screen for possible TB disease and check for HIV

## PNEUMONIA

<table>
<thead>
<tr>
<th>Chest indrawing in calm child OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast breathing AND</td>
</tr>
<tr>
<td>No signs of severe pneumonia</td>
</tr>
</tbody>
</table>

- Give Amoxicillin Dispersible Tablet (DT). (see pg 13)
- Give Vitamin A. (see pg 14)
- Treat wheeze if present (see pg 17).
- If wheezing, follow-up in 2 days (see pg 22)
- Soothe the throat and relieve the cough with a safe remedy.
- Screen for possible TB disease and check for HIV.
- Review in 2 days, if not possible, admit OR refer children with chest indrawing (see pg 22)
- Advise mother when to return immediately.

## NO PNEUMONIA:

<table>
<thead>
<tr>
<th>COUGH OR COLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No signs of pneumonia or very severe disease.</td>
</tr>
</tbody>
</table>

- Treat wheeze if present (see pg 17)
- If wheezing, follow-up in 2 days (see pg 22)
- Soothe the throat and relieve the cough with a safe remedy (see pg 15).
- Follow-up in 5 days if not improving.
- Screen for possible TB disease and check for HIV.
- Advise mother when to return immediately.
Refer to page 4 of the IMNCI Chart booklet to match symptoms to the classifications.

Chest indrawing

Fast breathing
DETERMINING OXYGEN SATURATION

A pulse oximeter measures oxygen saturation of haemoglobin in the blood.

If pulse oximetry is not available, use clinical signs to detect hypoxaemia and the need for oxygen therapy.

When used correctly, pulse oximetry allows reliable monitoring of the patient and ensures efficient use of oxygen.

Pulse oximetry should be performed on all children admitted to an inpatient ward with respiratory illness, danger signs or any sign of hypoxaemia.

Pulse oximetry is recommended for determining the presence of hypoxaemia and for guiding administration of oxygen therapy to sick infants and children.

Use pulse oximetry whenever possible for the detection of hypoxaemia.
UNIT II: DIARRHOEA
Objectives:

- Define diarrhea and dehydration
- Describe the transmission and prevention

Background

Assess & Classify

- Assess for diarrhoea and dehydration
- Classify Hypovolaemic shock, dehydration, diarrhoea and dysentery
CURRENT SITUATION: DIARRHOEA

Prevalence: 15.2% (KDHS, 2014)

- The 2nd single leading cause of death among children under five years.
- Most of these deaths are due to dehydration.
- Every child has an average of 3 episodes of diarrhea annually.
- Prevalence of diarrhoea is high in children between 6 months - 2 years of age.
## DIARRHOEA PREVALENCE

**Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>2008/9</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast</td>
<td>27.2</td>
<td>17.6</td>
</tr>
<tr>
<td>North Eastern</td>
<td>16</td>
<td>7.8</td>
</tr>
<tr>
<td>Eastern</td>
<td>14.9</td>
<td>14.3</td>
</tr>
<tr>
<td>Central</td>
<td>14.4</td>
<td>10.4</td>
</tr>
<tr>
<td>Rift Valley</td>
<td>15.9</td>
<td>13.2</td>
</tr>
<tr>
<td>Western</td>
<td>17.2</td>
<td>20.1</td>
</tr>
<tr>
<td>Nyanza</td>
<td>16.2</td>
<td>18.9</td>
</tr>
<tr>
<td>Nairobi</td>
<td>11.9</td>
<td>15.6</td>
</tr>
<tr>
<td>National</td>
<td>16.6</td>
<td>15.2</td>
</tr>
</tbody>
</table>

**Class Exercise:**

- What is the prevalence of diarrhoea in children under 5 in your facility?
- List 4 main contributors of diarrhoea prevalence in children under 5 in that facility.
TRANSMISSION OF DIARRHOEA

Water contamination

Examples:
- Passing of stool in water
- Bathing in rivers/streams
- Improper disposal of faecal matter.
- Urinating in water
- Animals contamination

Poor hygiene and food contamination

Examples:
- Touching contaminated hands/surfaces
- Cooking with contaminated hands
- Using contaminated water
- Poor storage of prepared food and water
Does the child have diarrhoea?

IF YES, ASK

• For how long?

• Is there blood in the stool

LOOK, LISTEN, FEEL

• Look at the child’s general condition
  • Weak and absent pulse
  • Not alert, AVPU< A
  • Cold hands and temp gradient
  • Capillary refill (>3 secs)

Is the child:

• Lethargic or unconscious
• Restless or irritable?
• Look for sunken eyes

• Offer the child fluid. Is the child:
  • Not able to drink or
  • Drinking poorly?
  • Drinking eagerly, thirstily?

• Pinch the skin of the abdomen.

Does it go back;

• Very slowly (longer than 2 seconds?
• Slowly?
• Immediately?

Refer to page 5 of the IMNCI Chart booklet for assessing for Diarrhoea
CLASSIFYING A CHILD WITH DIARRHOEA

Signs to watch out for:

• Weak/absent peripheral pulse
• Not alert, AVPU < A
• Cold extremities
• Capillary refill
• Sunken eyes
• Skin pinch goes back very slowly
• The level of dehydration
• Blood in stool

Refer to page 5 of the IMNCI Chart booklet to match symptoms to the classifications
UNIT III: FEVER
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define Fever
- Describe the common causes of fever

Background

Assess & Classify

- Assess for fever
- Classify for Malaria, Measles and other fever related illnesses
According to KMIS 2015

Prevalence in Kenya:
- Highland epidemic: 3%
- Lake endemic: 27%
- Semi-arid, seasonal: 1%
- Low risk: <1%
- Coast endemic: 8%
Assessing for Fever

Does the child have fever?

**IF YES**

Has the child travelled to a high risk (Malaria endemic, seasonal transmission or epidemic prone) area in the last 1 month?

Decide Malaria Risk: High or Low

**THEN ASK:**
- For how long?
- If > 7 days, has fever been present everyday?
- Has the child had signs of measles within the last 3 months?
- In high malaria risk, do a malaria test
- Endemic zone
- Seasonal transmission zone
- Epidemic prone areas

In low malaria risk, do a malaria test if no obvious cause of fever

**LOOK AND FEEL**

- Look or feel for stiff neck
- Look for running nose
- Look for signs of MEASLES:
  - Generalized rash and one of these: cough, runny nose, or red eyes
- Look for any other cause of fever*

**TEST POSITIVE**
- P. falciparum PRESENT
- P. vivax PRESENT

**TEST NEGATIVE**
- P. falciparum or P. vivax absent

Refer to the IMNCI guideline pg 6
In Summary

Convulsions

Check for signs of:
- Very severe disease
- Malaria
- Measles and its complications
- Other possible causes of fever

Refer to page 6 of the IMNCI chart booklet
## Does the Child Have an Ear Problem?

**Classify**

<table>
<thead>
<tr>
<th>Signs</th>
<th>Classify As</th>
<th>Treatment</th>
</tr>
</thead>
</table>
| Tender swelling behind the ear. | Mastoiditis | - Give first dose of Ceftriaxone Antibiotic. (See pg 16)  
- Give first dose of paracetamol for pain (see pg 14)  
- Refer URGENTLY to hospital or admit  
- Check for HIV. |
| Pus is seen draining from the ear or Discharge is reported for less than 14 days, or Ear pain. | Acute Ear Infection | - Give Amoxicillin dispersible tablet for 5 days. (See pg 13)  
- Give paracetamol for pain (see page 14)  
- Dry the ear by wicking (See pg 15)  
- Check for HIV infection  
- Follow-up in 5 days (see pg 23) |
| Pus is seen draining from the ear or discharge is reported for 14 days or more. | Chronic Ear Infection | - Dry the ear by wicking (See pg 15)  
- Check for HIV infection  
- Follow-up in 5 days (see pg 23) |
| No ear pain and No pus seen or reported draining from the ear. | No Ear Infection | - No treatment. |
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define malnutrition.
- Describe Types of malnutrition.
- Describe causes of malnutrition.
- Assess and Classify malnutrition.
COMPONENTS OF GOOD NUTRITION

Nutrition is the intake of food considered in relation to the body’s dietary needs.

Good nutrition results from the adequate intake of macronutrients, micronutrients and water to supply the metabolic (anabolic and catabolic) processes in the body.

There are two components of nutrition

- **Macronutrients** - are required in large amounts to maintain body functions and carry out the activities of daily life.
  - There are three broad classes of macronutrient: proteins, carbohydrates and fats.

- **Micronutrients** - are needed only in minuscule amounts, these substances are the “magic wands” that enable the body to produce enzymes, hormones and other substances essential for proper growth and development.

Source: WHO, 2016
DEFINITIONS OF MALNUTRITION

- **Malnutrition** is defined as a state when the body does not have enough of the required nutrients (*under-nutrition*) or has excess of required nutrients (*over-nutrition*).

- Inadequacies of macro or micro nutrients may result in failure to thrive, poor growth or wasting.

- These processes are often measured by their anthropometrical consequences (weight for age, height for age or weight for height).

- **Under nutrition** is the most common form of malnutrition in developing countries.
GLOBAL SITUATION OF MALNUTRITION

• Over 2 million children are severely malnourished at any given time.

• 5 million out of 10 million child deaths are a result of malnutrition related causes.

• Moderate and Severely Malnourished children have 3 – 9 times higher chances of death than well nourished children.

• Widespread hunger & malnutrition is mainly attributed to natural calamities, wars, drought & disease.

KENYA SITUATION OF MALNUTRITION

• Kenya has a high infant and under five mortality rates (at 39 and 52/1000 live births respectively 2014 KDHS ) of which half has malnutrition as the main underlying cause.

• National levels of malnutrition is at 41% in Kenya.

• HIV and AIDS pose a new and significant challenge in addressing acute malnutrition as the two are intrinsically related.
COMMON TYPES OF MALNUTRITION IN CHILDREN

- Protein-energy malnutrition. This may lead to:
  - The child becoming severely **wasted**, a sign of marasmus.
  - The child becoming **stunted** (too short for age).
  - The child becoming **underweight** (low weight for age)
  - The child developing oedema, a sign of kwashiorkor.

- Micronutrient deficiency diseases. This may lead to:
  - Inadequate intake of Vitamins such as vitamin A or minerals such as iron.

- Anaemia as a result of infections, worm infestation, malaria, sickle cell diseases etc.
• **Protein, fat and carbohydrates** are macronutrients that make up the bulk of a diet and supply the body’s energy. Fats supply energy and are important in cell formation.

• Proteins are required to build new tissue and are derived mostly from animal origin such as milk, meat, and eggs.

• These animal by-products contain essential amino acids that cannot be produced by the body but must be eaten.

• Protein from cereals and pulses alone do not provide the sufficient balanced essential amino acids.

• To obtain the correct balance without requiring protein from animal sources, cereals and pulses must be combined when planning a meal.
MICRONUTRIENTS

- Micronutrients include: **iodine, iron, Vitamins A and C**
- Deficiencies in these micronutrients do not affect growth (i.e. the individual can have normal growth with appropriate weight and still be deficient in micronutrients)
- Deficiency in these micronutrients is not determined by anthropometric measurement.
- Deficiencies in these micronutrients will cause major illness such as anaemia, scurvy and impaired immunity.
• Other micronutrients include - magnesium, sulphur, nitrogen, essential amino-acids, phosphorus, zinc, potassium, sodium and chloride

• They are essential for growth and tissue repair.

• They are required only in small quantities, but the correct balance is essential for good health.

• A deficiency in any of these micronutrients will lead to growth failure measured by stunting and wasting.
Definition

It is a physiological response through which the body conserves energy. This is achieved through:

- Reducing physical activity and growth
- Reducing basal metabolism by:
  - Slowing protein turnover
  - Reducing functional reserve of organs
  - *slowing and reducing na+/K+ pumps
- Reducing inflammatory and immune responses
A child with malnutrition has a higher risk of many types of disease and death.

Malnutrition is an underlying cause in 60% of under five mortality.

Sick children brought to clinic may not have specific complaints that point to malnutrition or anemia.

Health workers or the child's family often fail to detect malnutrition.

Identifying and treating malnutrition can help prevent many severe diseases and death.

Severe cases need referral to hospital whereas less severe cases may be managed at home.

In malnourished children, checking for TB and HIV infection is important.
DETERMINING MUAC

• MUAC is the recommended measure for assessing nutritional status in children aged 6 - 59 months.
• It is a single linear measurement that does not require arithmetic, table look-up or plotting data on growth charts.
• A colour-coded tape is used to determine the level of severity of malnutrition
## DEFINITIONS OF MALNUTRITION

<table>
<thead>
<tr>
<th></th>
<th>MUAC (6-59 Months)</th>
<th>WHZ (&lt;6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>&gt; 13.5</td>
<td>&gt; -1</td>
</tr>
<tr>
<td>At Risk</td>
<td>12.5 to 13.4</td>
<td>-2 to -1</td>
</tr>
<tr>
<td>Moderate</td>
<td>11.5 to 12.4</td>
<td>-3 to -2</td>
</tr>
<tr>
<td>Severe</td>
<td>&gt; 11.5</td>
<td>&lt; -3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oedema or severe malnutrition</td>
</tr>
</tbody>
</table>
NUTRITIONAL ASSESSMENT

• It is a key component in growth monitoring

• In nutritional assessment, various anthropometric measurements are taken including;
  • Weight for height/length
  • Weight for age
  • MUAC (Mid Upper Arm Circumference)

• Weight for height/length is done to determine the z-score which is used to classify acute malnutrition

• Weight for age is used for growth monitoring (Acute and chronic malnutrition)

• Age for height/length is used for growth monitoring (Stunting)

• MUAC is used for mass screening of malnutrition (commonly used at community level)

• NB: Z-score is also known as standard deviation score or SD score.
  • It is the measure of the distance between the child’s value and the expected value of the reference population
Z-SCORE

• Z-score is also known as standard deviation score or SD score

• It is the measure of the distance between the child’s value and the expected value of the reference population

• REFER TO PAGES 55 & 56 OF THE CHART BOOKLET TO DETERMINE THE Z-SCORE
CHECK AND CLASSIFY MALNUTRITION

• After taking height/length and weight, use the tables in chart booklet pg. 56&57 to determine the z-score.

• Measure MUAC in a child 6 months or older.

• Check for oedema of both feet and any other medical complications (refer to chart booklet pg. 8)

• If no medical complication is present in acute malnutrition and anaemia, conduct the appetite test

• To classify Anemia, refer to chart booklet pg 8
THE APPETITE TEST

• It is a test performed to children aged 6 months and above with severe acute malnutrition to determine if the will be managed as outpatient or inpatient.

• A poor appetite test means that the child has significant infection or a major metabolic abnormality such as liver dysfunction, electrolyte imbalance, cell membrane damage.

• This are the patients at immediate risk of death.

To perform the test, refer to chart booklet pg 25.
UNIT VI: HIV EXPOSURE
CHECK FOR HIV EXPOSURE AND INFECTION

- Children may acquire HIV infection from an infected mother through vertical transmission in utero, during delivery or while breastfeeding.
- Without any intervention, 30 – 40% babies born to infected mothers will themselves be infected.
- Most children born with HIV die before they reach their fifth birthday, with most not surviving beyond two years.
- Good treatment can make a big difference to children with HIV and their families.
- The child’s status may also be the first indicator that their parents are infected too.

To assess and classify for HIV infection and exposure, refer to chart booklet pg. 9.
2 months up to 5 years: Check for HIV exposure and infection

ASK:

- Ask for mother’s HIV status to establish child’s HIV exposure
- Ask if child has had any TB contact

LOOK AND DIAGNOSE

- Child < 18 months
  - If mother is HIV positive, conduct DNA PCR for the baby at 6 weeks or at first contact with the child.
  - If mother’s HIV status is unknown, conduct an antibody test on mother to determine HIV exposure.
- Child ≥ 18 months
  - If mother’s antibody test is positive, the child is exposed. Conduct an antibody test on the child.

Child whose mother is NOT available:

- Child < 18 months
  - Do an antibody test on the child. If positive, do a DNA PCR test.
- Child ≥ 18 months
  - Do an antibody test to determine the HIV status of the child

NB: Refer to Early Infant Diagnosis Algorithm
UNIT VII: CHECK FOR CHILD’S DEVELOPMENTAL MILESTONES
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:
- Understand care for child development
- Understand background information:
  - Brain development, child’s skills domains and play & communication

Background

Assess & Classify
- Assess child’s development milestones
- Classify child’s development milestones

Application
- Complete sample exercises
- Counsel caregivers on home play and stimulation practices /activities for care for child development
WHAT IS CARE FOR CHILD DEVELOPMENT?

• Care for child development include play and stimulation interventions in early life to promote physical, social, emotional, language and cognitive development.

• This is done through responsive interactions between caregiver and the child by talking, playing and providing a stimulating environment.

• Care for child development is a more comprehensive approach to early life going beyond existing child survival interventions to also promote thriving.
Brain development is most rapid from conception and the first three years of life.

Stimulation is critical during the time the brain is sensitive.

Lack of stimulation during this period affects the child’s cognitive, physical, emotional and social development.
STIMULATED VS NON-STIMULATED BRAIN

Healthy Brain
This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

An Abused Brain
This PET scan of the brain of a Romanian orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.
CHILD’S SKILL DOMAINS

1. **Physical/Motor skills**—This involves coordinated movements
   - Reaching and grabbing
   - Follows objects with eyes
   - Turns head towards sound
   - Sitting, crawling, standing

2. **Cognitive skills**—This involves changes in child’s thought, intelligence, and language
   - Seeing, hearing, moving, touching;
   - recognize people, things, and sounds
   - compare sizes and shapes.

3. **Social skills**—This involves changes
   - In the child’s relationships with other people
   - How he/she communicates interests and needs
   - Expresses self through verbal and non-verbal skills

4. **Emotional skills**—It involves
   - Having appropriate emotional reactions to own efforts and other people
   - Being able to receive and express appropriate emotions and affection
## ASSESSING MILESTONES FOR AGE COHORT

<table>
<thead>
<tr>
<th>Age in Months</th>
<th>Developmental Milestones</th>
</tr>
</thead>
</table>
| 0-2           | • Social smile (Baby smiles back  
• Baby follows a colorful object dangles before their eye |
| 2-4           | • Hold the head upright  
• Follows the object or face with their eyes  
• Turns the head or response in any other way to sound  
• Smiles when you speak |
| 4-6           | • Rolls over  
• Reaches for and grabs object with hand  
• Takes objects to the mouth  
• Bubbles (makes Sounds |
## ASSESSING MILESTONES FOR AGE COHORT

<table>
<thead>
<tr>
<th>Age in Months</th>
<th>Developmental Milestones</th>
</tr>
</thead>
</table>
| 6-9           | • Sits without support  
                • Moves object from one hand to the other  
                • Repeats syllables (bababa, mamama)  
                • Play Peek Aboo (hide & Seek) |
| 9-12          | • Takes steps with support  
                • Picks up small object or string with two fingers  
                • Says 2-3 words  
                • Imitates simple gestures (claps hands, bye) |
| 12-18         | • Walks without support  
                • Drinks from a cup  
                • Says 7-10 words  
                • Points to some body parts on request |
## ASSESSING MILESTONES FOR AGE COHORT

<table>
<thead>
<tr>
<th>Age in Months</th>
<th>Developmental Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>18- 24</td>
<td>• Kicks a ball</td>
</tr>
<tr>
<td></td>
<td>• Build tower with 3 blocks or small boxes</td>
</tr>
<tr>
<td></td>
<td>• Points at pictures on requests</td>
</tr>
<tr>
<td></td>
<td>• Speak in small sentences</td>
</tr>
<tr>
<td>24 months &amp; Older</td>
<td>• Jumps</td>
</tr>
<tr>
<td></td>
<td>• Undresses and dresses themselves</td>
</tr>
<tr>
<td></td>
<td>• Says first name, tells short story</td>
</tr>
<tr>
<td></td>
<td>• Interested in playing with other children</td>
</tr>
</tbody>
</table>

REFER to PAGE 10 for ASESS, CLASSIFY AND IDENTIFY TREATMENT ON CHARTBOOKLET

* Refer to COUNSEL THE CAREGIVER (Recommendation for Care for child’s Development) on Page 28
ASSESS FOR INTERACTION, COMMUNICATION AND RESPONSIVENESS

• Through play and communication with the child, the caregiver learns to be sensitive to the child’s signals and appropriately respond to the child’s attempts to communicate.

• The counselling card suggests play and communication activities to help families stimulate the development of the child’s skills from conception.

• At different ages, a child needs stimulating environment to learn new skills.

• The recommendations for play and communication change and become more complex as the child grows older.

• The activities also help the family learn how to care for the child to promote the healthy growth and psychosocial development for the child.

To assess, classify and identify treatment REFER to page 11 of the Chart Booklet.
Purpose: Behaviors and Practice

Class Discussion

Ask participants to mention the behaviours and practices of caregivers from their communities.

• Note down all the responses and summarize them

Divide the participants into groups and ask them to discuss how the practices are performed

• With affection
• With responsiveness to the child

Format. Demonstration, Role play

The behaviors and practices of caregivers, include:

Providing food
Health care
Stimulation
Emotional support
Purpose: Importance of Stimulation

Class Discussion

- Distribute to participants, organized in pairs, the visuals on the importance of assessing and promoting child development.
- Ask them to review the images and explain to each other what they see in them.
- Then invite a participant to share his or her idea about the visual.
- Ask others to contribute. Reinforce what’s missing from the explanation.
- Invite one person to explain in local language and pretending to talk to a mother, why they should check how their children are developing, and play and talk with their children.
- Analyze the explanation together:
  - Was it clear?
  - Was it complete?

Use the visual aids on the importance of stimulation

Format. Participants will be divided into pairs. Use visual aids on the importance of stimulation
Purpose: Assessment and Action

Case 1: Mary

Mary is a 9 month old baby who lives with her grandmother and her 2 older siblings. The child is albino and lives in a house made of makeshift materials. Mary cannot pick an object with 2 fingers at 9 months, she has also not started crawling. She is currently admitted in hospital with a fever.

Action.

The health care provider counsels the grandmother and recommends that she gives Mary clean, safe household things to handle, bang and drop. The older siblings should continue playing with the Mary. Other recommendations given include: gentle massage of the baby during bath time.

If the grandmother notices no change after 30 days of intensive stimulation, she should bring back Mary to hospital for referral to a specialist.
Purpose: Assessment and Action

Case 1: Peter

Peter is the father of a 2 year old son, Peter leaves very early daily for fishing and returns late in the evening. He leaves his son in the care of a neighbour. The child is unable to speak, he is only able to make sounds but cannot utter any word.

Action

The health care provider counsels and encourages Peter on creating time to spend with his son and making simple toys to enhance play and communication. Peter should also encourage his child to talk and answer the child’s questions. Peter should also teach his child stories, songs and games, by doing this he will be stimulating his son’s language development.
UNIT VIII: CHECK THE CHILD’S IMMUNIZATION
Percent of children age 12-23 months fully vaccinated

*Kirinyaga county figure based on fewer than 25-49 unweighted cases.
CHILDHOOD VACCINATIONS

Percent of children age 12-23 months vaccinated

- BCG
- Pentavalent
- Polio
- Pneumococcal

- 97%
- 98%
- 96%
- 90%
- 97%
- 94%
- 90%
- 94%
- 87%
- 71%
- 85%
- 68%
- 2%

Fully vaccinated
None

KDHS, 2014
Immunization is one of the most cost effective health intervention for disease control.

- It targets children under the age of 5 years.
- It needs tremendous inputs and effort to make it happen.

Immunization coverage can be enhanced through;
- Routine Immunization
- Supplemental Immunizations
- Surveillance of the target diseases
- Mopping up in high risk areas
A child's body requires Vitamin A for growth and development, protection against absorption of the vitamin A & rapid utilization of vitamin A stores due to illnesses.

Vitamin A deficiency may lead to:
- Increased incidence of illness
- Delays recovery from infections
- Leads to eye damage and may even lead to blindness
- Increases the risk of death in sick children

Remember, Vitamin A supplementation can:
- Reduce measles mortality by 50%
- Reduce diarrhea mortality by 33%
- Reduce all causes of mortality by 23%

For immunization and Vitamin A schedule, refer to pg 12
CHECK THE CHILD’S DEWORMING STATUS

• Deworming involves giving an anthelmintic drug to children to rid them of parasites and worms e.g. roundworms, flukes and tapeworms.

• Deworming acts as both a treatment and preventive measure

• Children are particularly susceptible to intestinal worms and bilharzia through contaminated soil and water respectively

• Chronic worm infestations often make children malnourished, anemic and vulnerable to illnesses.

• It is important to deworm children as it improves health and immunity, and protects them from chronic illnesses caused by worms

REFER TO CHART BOOKLET PG 12 FOR THE VITAMIN A AND DEWORMING SCHEDULE
IMPORTANT POINTS TO CONSIDER

- *Do not give BCG to a child with symptomatic HIV/AIDS. In child exposed to TB disease at birth, do not give BCG, instead give child isoniazid Prophylaxis for 6 months then administer BCG 2 weeks after completion of IPT
- **Measles rubella vaccine at 6 months is for HIV exposed/infected children. Repeat at 9 months and 18 months
- ***Yellow fever vaccine should not be given to children with HIV/AIDS and is only offered in (Baringo, Elgeyo Marakwet) in Rift valley region.
- ****Rota Virus vaccine should not be given to children over 12 months
- Pentavalent not given if child had convulsion following previous dose or a child with recurrent convulsions or another active neurological disease
- PCV10 & Pentavalent not given to Infants with a moderate or severe illness (temperature ≥39°C) until their condition improves.
- PCV10 & Pentavalent contraindicated if severe allergic reactions or shock to a prior dose or any component of the vaccine.
- Do not delay referrals of children with severe classifications to administer immunizations
UNIT IX: ASSESS FOR OTHER PROBLEMS THAT THE CHILD MAY HAVE
ASSESS OTHER PROBLEMS THE CHILD MIGHT HAVE

It is important to remember that the already discussed IMNCI case management process;

• Does not cover all symptoms neither does it review pediatric medicine
• Remember to address some complaints the caregiver may have raised, eg
  • she may have said the child has an itchy skin or any other problem e.g. jiggers
  • Treat any other problems according to your training, experience and recommended policy and guidelines.
• Refer the child for any other problem you cannot manage in health facility.
IDENTIFY TREATMENT AND TREAT THE CHILD
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Identify appropriate treatment
- Understand treatment regimens

Identify Treatment

- Determine and give appropriate treatment
- Administer first treatment for various classifications at health facility
- Teach the caregiver how and when to give treatment at home

Treat the child

- Determine if admission or urgent referral is needed
- Identify and give appropriate pre-referral treatment

Refer Urgently
TREATMENT DECISION MAKING

Does the child require urgent referral?

NO

Identity treatment

Give 1st dose at health facility

Give return date for follow up & counsel the mother

YES

Identify urgent pre-referral treatment

Administer treatment & refer urgently

Where referral is NOT possible for the sick young infant, refer to the management of PSBI pages 37 and 42
CLASSIFICATION NEEDING ADMISSION OR URGENT REFERRAL (PINK ROW)

CLASSIFICATIONS

- Severe Disease
- Severe pneumonia or Very severe disease
- Hypovolemic Shock from Diarrhoea/ Dehydration
- Severe dehydration or severe persist diarrhoea if;
  - Occurring with another severe classification
  - Rehydration is not possible at the facility
- Very severe febrile disease or Very severe malaria
- Severe complications of measles
- Mastoidis
- Severe acute malnutrition with complications for children > 6 months
- Severe anaemia
IDENTIFY TREATMENT

Refer participants where to find the appropriate medications and dosages for the following:

Last column of the assess, classify charts: pages 4 to 11.
- General Danger signs
- 4 main symptoms
  - Cough or difficult in breathing
  - Diarrhoea
  - Fever
  - Ear infection
- Malnutrition
- HIV Exposure and Infection
- Developmental Milestones
- Interaction, Communication and Responsiveness
- Immunization
EXAMPLE 1A: IDENTIFY TREATMENT

Very severe disease (pg 4)

- Give diazepam if convulsing now
- Quickly complete the assessment
- Give any pre referral treatment immediately
- Treat to prevent low blood sugar
- Keep child warm
- REFER URGENTLY

For Severe pneumonia or very severe disease

- If Oxygen saturation is less than 90%, start oxygen therapy
- First dose of antibiotic: Injectable Benzyl penicillin and Gentamicin
- Treat wheeze if present
- Treat to prevent low blood sugar
- Keep child warm
- ADMIT OR REFER URGENTLY
Severe pneumonia or very severe disease *(pg 4)*

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Benzyl Penicillin (50,000 iu/kg)</th>
<th>Gentamicin (7.5mg/kg)</th>
<th>Ceftriaxone (50mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IV/IM 6 hourly</td>
<td>IV/IM 24 hourly</td>
<td>IV/IM 24 hourly for neonates** Meningitis/very severe sepsis, 50mg/kg BD not to exceed 4g/day</td>
</tr>
<tr>
<td>3.0</td>
<td>150,000</td>
<td>20</td>
<td>150</td>
</tr>
<tr>
<td>4.0</td>
<td>200,000</td>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>5.0</td>
<td>250,000</td>
<td>35</td>
<td>250</td>
</tr>
<tr>
<td>6.0</td>
<td>300,000</td>
<td>45</td>
<td>300</td>
</tr>
</tbody>
</table>

Refer to the guidelines for additional information*
EXAMPLE 2: IDENTIFY TREATMENT

- **Hypovolaemic Shock from Diarrhoea/Dehydration**
  - IV fluid bolus Ringers 20mls/kg
    - A second bolus may be given if required before proceeding to step 2 of Plan C
  - Treat for and to prevent low blood sugar
  - Keep child warm
  - Admit or refer urgently

- **Severe dehydration**
  - Child has another severe classification - **admit or refer** urgently to hospital. Give frequent sips of ORS on way to hospital, continue breastfeeding
  - Child with no other severe classification;
  - If acute malnutrition present:
    - Give fluid for severe dehydration – plan C *(Refer to chart booklet pg 19)*
    - Give Vitamin A
    - Give Zinc sulphate and ORS
    - If child is over 2 years and there is cholera in the area, give Erythromycin
NOTE:

• Refer to the chart booklet for other pre referral treatment
• A child with any other problem that cannot be treated at the health facility should be referred
• Other non-urgent referrals include:
  • Child with a cough for 14 days or more
  • Fever present for over 7 days.
  • In these cases, there is time to give other treatments before referral.
TREATING A CHILD NOT NEEDING REFERRAL

• Identify the needed treatment
• Give the mother information on the drugs
• Give the first dose of all prescribed drugs
• Dispense and explain how and when to give treatment at home
• Check mother’s understanding on how to administer the drug(s)
• Give a return date
EXAMPLE 3A: IDENTIFY TREATMENT FOR CHILD NOT NEEDING REFERRAL

- **Severe acute malnutrition without complications**
  - Give Amoxicillin DT
  - Give Vitamin A
  - Treat to prevent low blood sugar
  - Keep child warm
Child with Pneumonia (Refer to chart book let pg 4)

- Give Amoxicillin DT for 5 days
- Give Vitamin A
- Treat wheeze if present
- Soothe throat and relief cough with safe remedy
- If cough present 14 days or more, screen for possible TB disease or refer
- Check for HIV infection
- Advise mother when to return immediately
- Follow up in 2 days
Acute ear infection in a child aged 1 year weighing 10kg; Write the appropriate treatment

- Amoxicillin DT 250mg- 2 tabs, twice a day for 5 days.
- Paracetamol Tabs ¼ of the 500mg 4 times daily.
- Wick the ear if there is ear discharge.
WHEN TO RETURN IMMEDIATELY

- Counsel the mother on when to return immediately if the sick child becomes sicker
- Counsel the mother on when to return for scheduled visits
- Counsel the mother about her own health

Refer to chart booklet pg 30 and for when to return for scheduled refer to pg 31
MANAGEMENT OF DIARRHOEA
MANAGEMENT OF DIARRHOEA

- Most children with diarrhoea are mismanaged and die from dehydration
- The most important aspect of diarrhoea management is **REHYDRATION**
- Antibiotics should **ONLY** be used for **DYSENTERY** or if there is cholera in the area
- Always use **ORS, ZINC and Vitamin A** in management of diarrhoea
- Emphasize diarrhoea prevention

<table>
<thead>
<tr>
<th>ORS</th>
<th>ZINC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces stool output</td>
<td>Reduces the duration and severity of episodes</td>
</tr>
<tr>
<td>Replaces sodium bicarbonate and potassium</td>
<td>Lowers incidence of diarrhea in the next 2-3 months</td>
</tr>
<tr>
<td>Reduces incidence of vomiting</td>
<td>Reduces the incidence of pneumonia</td>
</tr>
<tr>
<td>Reduces the burden of having to admit and treat with IV fluids</td>
<td>Improves cellular intestinal immune function</td>
</tr>
<tr>
<td></td>
<td>Increased functioning of the immune system</td>
</tr>
</tbody>
</table>
 MANAGEMENT OF DIARRHOEA

- Plan A – used to manage diarrhoea at home when a child has **NO DEHYDRATION**

- Plan B – used for management of diarrhoea at the clinic for a child with **SOME DEHYDRATION**

- Plan C – Applied for managing diarrhoea when a child has **SEVERE DEHYDRATION**
Plan A has 4 rules;

- **Rule 1-** Give *extra fluids* (as much as the child will take).
  - This prevents a child from developing dehydration

- **Rule 2-** Give Zinc sulphate
  - Builds immunity
  - Reduces the duration of diarrhoea
  - Prevents diarrhoea 2-3 months after the episode
  - Give for 10 days

- **Rule 3 - Continue feeding**
  - Breastfeed more frequently and longer at each feed
  - If exclusively breastfed, give ORS in addition to breast milk
  - If not exclusively breast fed, give ORS and other appropriate fluids
  - Give an extra meal

- **Rule 4-** Counsel mother on when to return for follow up
  - All children with diarrhoea should receive Vitamin A if they have not had a dose in the last *one month*.

NB: Refer to Chart booklet page 18 for details on plan A.
PLAN B

• Determine amount ORS to be given over a period of 4 hours at the health facility.

• Re-assess after 4 hours and re-classify

NB: For effective management of Plan B, all facilities should have an ORT corner (ORT corner notes to follow).
ORAL REHYDRATION THERAPY (ORT)
WHAT IS AN ORT CORNER

This is a designated area or space within a health facility where children with diarrhoea diseases are managed (including rehydration and caregiver counseling)
ORT CORNER JOB AID

WHAT IS AN ORAL REHYDRATION THERAPY (ORT) CORNER:
This is a designated area or space within a health facility where:
- Assessment, classification and treatment of children with diarrhoea is done
- Oral rehydration is administered to children
- Caregivers are educated on the prevention of diarrhoea, recommended home practices and treatment of diarrhoea

LOCATION:
Several points within a health facility where children with diarrhoea are managed. (Eg. MCH, General OPD, Paediatric OPD and Paediatric Ward)

BASIC ORT CORNER EQUIPMENT & MEDICATION

<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>EQUIPMENT</th>
<th>TOOLS</th>
<th>IEC MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ORS</td>
<td>1. Infection prevention buckets: - Soapy water for washing - Disinfecting water (Eg. Chlorine in water in the ratio of 1:6 or any other disinfecting liquid that is locally available) - Clean water for rinsing - Clean bucket for storing clean cups</td>
<td>1. ORT corner register - MOH/Improvised</td>
<td>1. Posters Prevention &amp; Treatment</td>
</tr>
<tr>
<td>2. Zinc</td>
<td>2. Hand washing point (Eg. Tippy Taps)</td>
<td>2. ORT corner Job aids/ Guidelines</td>
<td>2. Caregiver fact booklet etc.</td>
</tr>
<tr>
<td></td>
<td>4. Calibrated ORS mixing jug - at least 1000 ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. 250 ml mixing jug</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Clean cups</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SICK CHILD’S PATH TO THE ORT CORNER:

REGISTRATION → TRIAGE

CONSULTATION: Assessment & Classification & Treatment

- (Diarrhoea with NO dehydration)
- (Diarrhoea with SOME dehydration)
- (Diarrhoea with SEVERE dehydration)

ORT CORNER

PLAN A:
- Give ORS, Zinc Sulphate, Vitamin A as STAT dose to return.
- Continue rehydrating with ORS over 4 hours.
- After 4 hours, reassess and re-classify

PLAN B:
- Intravenous IV / Intranasal (IO) access: fluid therapy
- NG TUBE insertion for ORS

HOME TREATMENT AND FOLLOW UP:
Counsel the caregiver on:
- Giving ORS after every loose stool
- Give Zinc for 10 days
- Give recommended home fluids
- Continue feeding as per age group recommendation
- Prevention & treatment of Diarrhoea
- When to return (if diarrhoea persists)

NOTE: TREAT FOR OTHER SYMPTOMS THAT MAY BE PRESENT
**For the Care giver**

- IEC Materials on:
- Diarrhoeal disease treatment
  - ORT (ORS and other fluids) and Zinc.
  - Vitamin A.
  - Feeding.
- Key preventive messages on:
  - Vaccination (Rotavirus and measles)
  - Hand washing with soap
  - Personal hygiene and Sanitation
  - Use of Safe water at Home
  - Exclusive Breastfeeding for age< 6 months) & age >6months.

**For Health Worker**

- Diarrhoea management Job Aid for:-
  - Assessment
  - Classification
  - Treatment
  - Counseling
- ORT Corner operational guideline.
- IMCI Chart Booklet.
PLAN C

- For management of children with severe dehydration
- Refer to the Plan C flow chart on page 19 of the chart booklet

Example 6

Gabriel is one year old and weighs 10 kg.

- His mother brings him to the clinic because he has diarrhoea.
- The health worker determines that he has none of the general danger signs.
- He is classified as having SEVERE DEHYDRATION. He is able to take small sips orally. The clinic can provide IV fluids.
- How should the health worker treat Gabriel’s dehydration?
Only rehydrate until the weight deficit (5% of the measured or estimated body weight) is corrected.

Do not give extra fluids to prevent recurrence.

For a child who is conscious - not in shock, give Rehydration Solution for Malnutrition (ReSoMal);

- 5mls/kg half hourly for the first 2 hours then

- 5-10mls/kg hourly, for the next 10-12 hours

- If a child can not take orally, use an NG tube.
Unconscious/IN SHOCK

• Do not give IV fluids unless the child is in SHOCK (cold extremities, weak pulse, reduced level of consciousness).

• Treat hypoglycaemia and keep warm.

• Admit or refer URGENTLY.

Refer to the chart booklet page 19
MANAGEMENT OF FEVER, MALARIA AND MEASLES
**UNCOMPLICATED MALARIA: RECOMMENDED DRUGS AND DOSAGES**

- **First Line Treatment:**
  - Artemether + Lumefantrine (AL)*
    - 6 doses given over 3 days
  - Dispersible AL is available and recommended for children
  - Children Below 5 Kg
    - One tablet of AL under supervision

- **Second Line Treatment**
  - Dihydroartemisinin+Piperaquine (DHAP + PPQ)
    - 3 doses given over 3 days

- *As per 2015 therapeutic efficacy of AL stood at 98%*
## UNCOMPLICATED MALARIA: DOSING SCHEDULE FOR ARTEMETHER-LUMEFANTRINE

<table>
<thead>
<tr>
<th>Weight</th>
<th>Age in years</th>
<th>Dose of AL to be administered at 0hrs, 8hrs, 24hrs, 36hrs, 48hrs and 60hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 14 kg</td>
<td>&lt;3 years</td>
<td>20mg Artemether and 120mg Lumefantrine</td>
</tr>
<tr>
<td>15 - 24 kg</td>
<td>3 – 7 years</td>
<td>40mg Artemether and 240mg Lumefantrine</td>
</tr>
</tbody>
</table>
Management of suspected treatment failure

- Failure to achieve desired therapeutic response after initiation of therapy may result from non-adherence, vomiting, wrong diagnosis, unusual drug pharmacokinetics, drug resistance, poor quality medicines.

- Should be suspected if there is no improvement 3-14 days after initiation of treatment or if symptoms reappear after 14 days treat as a new infection.

- In cases of non-adherence or non-completion repeat full course of AL after addressing the cause (of non-adherence).

- Malaria microscopy should be used to confirm (RDTs not recommended).

- In facilities with no microscopy patients with suspected treatment failure should be referred.

- Treat confirmed cases with Dihydroartemisinin-Piperaquine.
**DOSING SCHEDULE FOR DIHYDROARTEMISININ-PIPERAQUINE**

<table>
<thead>
<tr>
<th>Body weight (kg)</th>
<th>Dihydroartemisinin + Piperaquine dose (mg) given daily for 3 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to &lt;8</td>
<td>20 + 160</td>
</tr>
<tr>
<td>8 to &lt;11</td>
<td>30 + 240</td>
</tr>
<tr>
<td>11 to &lt;17</td>
<td>40 + 320</td>
</tr>
</tbody>
</table>
**PREREFERRAL TREATMENT**

- Treatment for severe febrile disease is provided at the peripheral facility as patient waits for referral.

- If child has any of the general danger signs or stiff neck, administer pre-referral treatment i.e. Ceftriaxone.

- **Treatment for Severe Malaria is parenteral**

- In the absence of artemisinute, IM artemether or quinine should be used.
Artesunate dispensed as Artesunic powder

Dissolved in sodium bicarbonate (5%) to form sodium artesunate

Solution then dissolved in 5mls of normal saline or 5% dextrose
  - USE OF WATER FOR INJECTION NOT RECOMMENDED

Note: Artesunate powder for IM/IV injection, 60mg in vial together with 1ml ampoule of 5% sodium bicarbonate BP & 5ml ampoule of 0.9% (9mg/ml).
Pre-Referral dosage of IM artesunate

- Administer **3.0mg/kg** for children **< 20kg**, then refer

- Administer **2.4mg/kg** for children **> 20kg** and adults, then refer
ARTESUNATE ADMINISTRATION

• Dissolve artesunic powder with 5% sodium bicarbonate (provided with vial)

• Dilute resultant solution with 5mls normal saline (provided with vial) or 5%dextrose

• Administer 2.4 mg/kg (>20kg) or 3.0mg.kg (<20Kg) stat by slow IV

• Repeat the same at 12hrs and 24hrs

• Thereafter administer daily until patient can take orally, then

• Give a complete course of AL
IM ARTEMETHER

- IM artemether is fat soluble
- It is provided in dilution form
- Administer as a start dose
- Administer IM 3.2mg/kg/body wt
- Refer patient after administration
WHERE REFERRAL IS NOT POSSIBLE OR DELAYED, CONTINUE WITH TREATMENT AS FOLLOWS:

- Administer artesunate IM/IV 2.4 mg/kg (>20kg) or 3.0mg/kg (<20Kg) for a minimum of 24 hours.

- The first dose of AL should be administered 8 to 12 hours after the last injection of artesunate.
MANAGEMENT OF EAR PROBLEM
TREATMENT OF MASTOIDITIS

- Give first dose of Ceftriaxone
- Give first dose of paracetamol for pain
- Admit or REFER URGENTLY to hospital
ACUTE EAR INFECTION

- Give **Amoxicillin DT** for 5 days
- Give paracetamol for pain
- Dry the ear by wicking
- Screen for possible TB and Check for HIV
- Follow up in 5 days
CHRONIC EAR INFECTION

- Dry the ear by wicking
- Follow up in 5 days
- Screen for possible TB and Check for HIV
HIV CARE FOR CHILDREN

WHAT TO START: CHILDREN

<table>
<thead>
<tr>
<th>AGE/WEIGHT</th>
<th>REGIMEN</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2 weeks</td>
<td>AZT/3TC + NVP</td>
<td>As per 2016 ART guidelines</td>
</tr>
<tr>
<td>&gt;2 weeks - &lt;3 years</td>
<td>ABC/3TC + LPV/r</td>
<td>Once a child attains 25kg switch from LPV/r to ATV/r</td>
</tr>
<tr>
<td>3 years – 14 years</td>
<td>ABC/3TC + EFV</td>
<td>Children with contraindication to EFV can use LPV/r or ATV/r as recommended (see pg 21)</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>TDF/3TC/DTG</td>
<td>For children &gt;35kg DTG is preferred instead of EFV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use FDC for better adherence</td>
</tr>
</tbody>
</table>

DOSAGE OF COTRIMOXAZOLE PROPHYLAXIS

<table>
<thead>
<tr>
<th>WEIGHT (KG)*</th>
<th>SUSPENSION 240MG PER 5ML</th>
<th>SINGLE STRENGTH TABLET 480MG (SS)</th>
<th>DOUBLE STRENGTH TABLET 960MG (DS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>2.5ml</td>
<td>¼ SS tab</td>
<td>-</td>
</tr>
<tr>
<td>5-8</td>
<td>5ml</td>
<td>½ SS tab</td>
<td>¼ DS tab</td>
</tr>
<tr>
<td>9-16</td>
<td>10ml</td>
<td>1 SS tab</td>
<td>½ DS tab</td>
</tr>
<tr>
<td>17-30</td>
<td>15ml</td>
<td>2 SS tab</td>
<td>1 DS</td>
</tr>
<tr>
<td>&gt;30 (Adults and adolescents)</td>
<td>-</td>
<td>2SS</td>
<td>1DS</td>
</tr>
</tbody>
</table>

*Dose by body weight is 24-30 mg/kg once daily of the trimethoprim-sulphamethaxazole – combination drug.

ART Treatment in children with TB

<table>
<thead>
<tr>
<th>AGE/WEIGHT</th>
<th>FIRST LINE TB/HIV CO-INFECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 Weeks</td>
<td>Start TB treatment immediately, start ART (Usually after 2 weeks of age) once tolerating TB drugs</td>
</tr>
<tr>
<td>&gt; 2 Weeks and &lt;35kgs</td>
<td>ABC/3TC/LPV/r/RTV</td>
</tr>
<tr>
<td></td>
<td>If not able to tolerate super boosted LPV/r/RTV then use ABC/3TC + RAL for duration of TB treatment</td>
</tr>
<tr>
<td></td>
<td>After completion of TB treatment revert back to the recommended 1st line regime ABC/3TC + LPV/r</td>
</tr>
<tr>
<td></td>
<td>If on ABC/3TC/EFV regimen – continue</td>
</tr>
<tr>
<td></td>
<td>If on NVP based regimen, change to EFV</td>
</tr>
<tr>
<td>&gt;35 kgs body weight and &lt; 15 years age</td>
<td>ABC/3TC/DTG continue with the regimen AND double the dose for DTG</td>
</tr>
<tr>
<td></td>
<td>If on PI based regimen switch the patients to DTG, hence doubling the dose</td>
</tr>
</tbody>
</table>
# HIV Care for Children

## Pediatric ARVs Dosages

<table>
<thead>
<tr>
<th>Weight Range (KG)</th>
<th>Fixed Dose Combinations</th>
<th>EFVirenz (EVF)</th>
<th>Lamivudine Zidovudine</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - 5.9</td>
<td>120 mg ABC + 60 mg 3TC</td>
<td>200 mg Tab</td>
<td>200 mg Tab</td>
</tr>
<tr>
<td>6 - 9.9</td>
<td>1 tab</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10 - 13.9</td>
<td>1 tab</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14 - 19.9</td>
<td>1.5 tabs</td>
<td>1.5 tabs</td>
<td>1 tab in AM &amp; 0.5 in PM</td>
</tr>
<tr>
<td>20 - 24.9</td>
<td>2 tabs</td>
<td>1.5 tabs</td>
<td>1 tab in AM &amp; 0.5 in PM</td>
</tr>
<tr>
<td>25 - 34.9</td>
<td>300 mgs + 150 mgs</td>
<td>2 tabs</td>
<td>1 tab</td>
</tr>
</tbody>
</table>

## Pediatric ARVs Dosages - Lopinavir/Ritonavir

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Age Category</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid (80/20mg)</td>
<td>2 weeks - 4 years of age</td>
<td>Easy to swallow for the infant and/or child</td>
</tr>
<tr>
<td>Tablets (100/25mg)</td>
<td>5 years and older children</td>
<td>Able to swallow the whole tablets</td>
</tr>
</tbody>
</table>

Refer to Guidelines on Use of Antiretroviral Drugs for Treating and Preventing HIV Infections in Kenya available at [http://www.nascop.or.ke](http://www.nascop.or.ke)
ESSENTIAL NEWBORN CARE
Five Key Messages of Essential New Born Care

The following care should be given to all newborn

1. Wipe the baby immediately after birth using a soft, clean and dry cloth and wrap the baby with another dry cloth to keep baby warm.

2. Use 4% CHX gel immediately after cord cutting and keep the cord clean and dry. Apply nothing on the cord and surrounding areas.

3. Keep baby in skin to skin contact

4. Initiate breast feeding within one hour of birth

5. Delay bathing for at least 24 hours after birth
MANAGEMENT OF THE SICK YOUNG INFANT AGE UPTO 2 MONTHS

CASE MANAGEMENT
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:
- Define the basic needs of newborn care
- Describe the transmission of newborn illnesses
- Discuss the current status of newborn indicators

Background
- Assess & Classify
- Assess a sick young infant and the care of a young infant (Breastfeeding etc.)
- Classify a sick young infant

Application
- Complete sample exercises
- Participate in practical sessions
INTRODUCTION TO THE CLASSIFICATION TABLES:

Reference: IMCI guidelines page 2

**Purpose**

ASSESS & CLASSIFY the Sick young infant:

- Signs of illness
- Classification of illness

**Layout**

THREE ROWS with distinct colours for quickly identifying if:

- The infant has a serious illness.
- The infant needs urgent attention.
- The infant needs treatment/intervention with drugs

**Application**

COLOUR CODING:

- Pink = Severe Classification needing admission or referral
- Yellow = A classification needing treatment/ intervention
- Green = Not serious, and in most cases no drugs are needed
DEFINITION OF SIGNS

- Convulsions
- Not able to drink or breastfeed
- Looking for breathing
- Look for severe chest in-drawing
- Grunting
- Wheezing
- Nasal flaring
- Central Cyanosis
- The Fontanelle
- Young Infant’s Movement
- Pus draining from the ear
- Skin pustules
- Umbilicus: red or draining pus
ASK: Has the young infant had convulsions? Fits/twitching?

- Use simple words the mother may know for convulsions such as "fits" or "spasms"
- Ask this question in relation to the current illness

Convulsions may be:

- Any abnormal movement noticed in any part of the body
- A young infant’s arms and legs stiffen because the muscles are contracting
- A young infant who is not conscious
ASK: Has the young infant not been able to drink or breastfeed?

- If a mother says that the young infant is *not able to feed or breastfeed* watch her try to breastfeed or feed the young infant with a cup to see what she means by this.

- A young infant who is *not able to feed or breastfeed* may have a serious infection

**Not able to feed or breastfeed:**

- This is a baby who is unable to take anything orally
LOOK FOR BREATHING

Gasping:

• This is severe air hunger or struggle for air or respiratory rate is less than 20 breaths per minute

Absence of respiration:

• This is when the young infant is not breathing at all, even when stimulated.

Count the breaths in one minute.

• If the breaths are 60 or more per minute on second count, then young infant has fast breathing.
LOOK FOR SEVERE CHEST IN-DRAWING

What is chest in-drawing?

Is the inward movement of the lower chest wall when the child breathes in

- Mild chest in-drawing is **normal** in a young infant because the chest wall is soft

- Look for chest in-drawing when the young infant breathes **IN**.

- Look at the lower chest wall (lower ribs).

- The young infant has chest in-drawing if **the lower chest wall goes IN when the infant breathes IN**
GRUNTING, WHEEZE, NASAL FLARING, CENTRAL CYANOSIS AND BULGING FONTANELLE

Listen for:

- **Grunting**: Is soft, short sounds a young infant makes when breathing out. It occurs when the young infant is having trouble breathing

- **Wheeze**: is a soft, musical sound heard when the child breathes out.

Look for:

- **Nasal flaring**: is widening of the nostrils when the young infant breathes in

- **Central Cyanosis**: is the blue coloration of tongue and mouth

- The **fontanelle**: is bulging rather than flat, this may mean the young infant has meningitis.
POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

CASE MANAGEMENT
Health Care Providers Should be able to:

Objectives:

- Define Possible Serious Bacterial Infection.
- Assess and Classify Possible Serious Bacterial Infection
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

All sick young infants must be checked for signs of POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

- **Very Severe Disease**: A life threatening condition in children below 2 months, which requires urgent assessment and treatment

- **Local Bacterial Infection**: This is a bacterial infection that invades the body at a specific point of a child below 2 months. For example, infected cord, skin pustules etc.

Source: WHO, 2016
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

**ASK**

- Has the infant had convulsions? Fits/twitching

**ASK & LOOK**

- Is the infant able to feed or breastfeed?
- Is there blood in stool?

**ASSESS**

- **Assess airway**
  - Listen for airway noises
  - Count the breaths in 1 minute.
  - Look for central cyanosis in the mouth
  - Listen for grunting
  - Look for lower chest wall indrawing
  - Check oxygen saturation if pulse oximeter is available

**ASSESSMENT OUTCOME**

- **Airway**
  - Airway noises
- **Breathing**
  - Fast breathing (60 breaths per minute or more), or
  - Central cyanosis, or
  - grunting, or
  - lower chest wall indrawing, or
  - oxygen saturation <90%.
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

ASK

- Has the infant had convulsions? Fits/twitching

ASK & LOOK

- Is the infant able to feed or breastfeed?
- Is there blood in stool?

ASSESS

Assess adequacy of circulation
- If the newborn passed urine in the past 12 hours
- Assess the capillary refill time
- Feel the temperature of the hands and feet
- Assess Pulse
- Check the palms for pallor

ASSESSMENT OUTCOME

Circulation (hypovolemic shock)
Capillary refill time >2 seconds (on the sternum) and any of the following:
- Has not passed urine in the past 12 hours: possible renal failure
- Cold hands / feet
- Pulse >160 beats per minute
- Severe pallor
CHEFCK FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

ASK

- Has the infant had convulsions? Fits/twitching

ASK & LOOK

- Is the infant able to feed or breastfeed?
- Is there blood in stool?

ASSESS

Assess for disability

ASK:

- Did the newborn have convulsions or abnormal movements?
- Check blood glucose with glucose test strip if possible
- Look for convulsions/twitching
- Look at the newborn’s movements
  - Movement on his/her own
  - Movement upon stimulation
- Look and feel for bulging anterior fontanelle.
- Assess ability to breastfeed
- Feel the limbs for tone (reduced or increased)
- Listen for high pitched cry.

ASSESSMENT OUTCOME

Disability

- Blood glucose <3mmol/L
- History of convulsions/twitching and observed
- Not able to drink or breastfeed or movement or only when stimulated or no movements at all
- Bulging anterior fontanelle or abnormal tone
- Reduced or increased or high-pitched cry.
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

**ASK**
- Has the infant had convulsions? Fits/twitching

**ASK & LOOK**
- Is the infant able to feed or breastfeed?
- Is there blood in stool?

**ASSESS**
- Other signs of infection
  - Assess for other signs of infection
  - Look at the umbilicus for redness or pus
  - Look for severe abdominal distension
  - Look for pus draining from the ear
  - Measure axillary temperature (or feel for high or low body temperature)
  - If mother is not tested for HIV, test.

**ASSESSMENT OUTCOME**
- Other possible serious bacterial infections or very severe disease
  - Infection: Fever (37.5 °C or above or feels hot) or low body temperature (<35.5 °C or feels cold) or severe abdominal distension
### LOCAL BACTERIAL INFECTION

**ASK**

- Has the infant had convulsions? Fits/twitching

**ASK & LOOK**

- Is the infant able to feed or breastfeed?
- Is there blood in stool?

**ASSESS**

- Look at the umbilicus for redness or pus
- Look for skin pastules
- Measure axillary temperature (or feel for high or low body temperature)

**ASSESSMENT OUTCOME**

Local bacterial infection

- Pus or redness around umbilicus or
- Skin pustules.
- Temperature between 35.5°C to 36.4°C
- And none of the signs of very severe disease
VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION UNLIKELY

Step 1: REVIEW ALL THE SIGNS OF POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE

Step 2: NONE OF THE SIGNS OF VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION UNLIKELY

Step 3: VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION UNLIKELY
Exercise A-Chart Booklet Review

Reference page: 32- Read and review Possible serious bacterial infection or Very Severe Disease

Exercise B-Video and Photos

This exercise consists of two parts.

Part 1 you will watch a video of young infants. This will demonstrate

• How to assess a young infant for possible serious bacterial infection or very severe disease

• Examples of signs.

Part 2 is a photograph exercise.

• Study the photographs and respond to the exercise.
Health Care Providers Should be able to:

Objectives:

- Define jaundice.
- Describe Types of jaundice.
- Describe causes of jaundice.
- Assess and Classify Jaundice
Jaundice is defined as the yellow coloration of skin and mucous membranes due to high bilirubin levels in the serum

- It's the yellow coloration of the skin, mucous membranes and or the eyes.
- It may be physiological (normal) or pathological (abnormal).
- More than 50% of normal newborns and 80% of preterm infants, have some jaundice.
- It is visible in a neonate when serum bilirubin is more than 5mg/dl
## Types of Jaundice

### Physiological Jaundice
- Physiological jaundice usually appears between 48-72 hours of age. Maximum intensity on days 4 & 5 in term babies and day 7 in pre-terms and disappears by day 14.
- Physiological jaundice does not extend to palms and soles does not need any treatment.
- Babies remain completely well.
- Sets in on day 3 after birth.
- Disappears within 2 weeks.
- Common in newborn especially in pre-term.

### Pathological Jaundice
- Jaundice starts on the first 24 hours of life.
- Jaundice lasts longer than 14 days in term baby, 21 days in preterm infants.
- Jaundice accompanied with fever or other signs of illness.
- Deep jaundice - palms and soles of the baby are deep yellow.
- Look for the cause and treat accordingly.
## Causes of Jaundice

### Physiological
- Due to normal physiological breakdown of large red blood cell mass.

### Pathological
- Serious bacterial infection.
- Haemolytic disease - blood group (Rhesus and ABO) incompatibility.
- Congenital syphilis or other intrauterine infections.
- Liver disease - hepatitis or biliary atresia.
- Hypothyroidism.
- Asphyxia.
- Birth injuries.
ASSESSING SEVERITY OF JAUNDICE

- Jaundice in newborn progresses from head to toe
- The extent of yellowness of the skin is useful to assess the level of bilirubin
- Kramer’s criteria are used to clinically estimate bilirubin level to assess severity

<table>
<thead>
<tr>
<th>Jaundice restricted to</th>
<th>Serum bilirubin levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face and trunk</td>
<td>≤ 12 mg %</td>
</tr>
<tr>
<td>On hands and feet (severe)</td>
<td>≥ 15 mg %</td>
</tr>
</tbody>
</table>

Refer to page 33 of the IMNCI Chart Booklet on Look for Jaundice
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define eye infections and conditions
- Describe types of eye infections and conditions
- Describe causes of eye infections and conditions
- Assess and classify eye infections and conditions
EYE INFECTIONS AND CONDITIONS

- Over 75% of all blindness in Kenya is either preventable or treatable
- Most of the patients who come to clinics with eye complaints can be successfully treated by non-specialist medical workers
- Important causes of blindness in Kenya include cataract 42%, trachoma 19%, glaucoma 9% and others (trauma, vitamin A deficiency)
- If left untreated eye and vision problems can lead to difficulties in development, education and potential permanent vision loss.
  - Majority of learning in school is done through reading.
It is important for all health care workers to check for the eye infections and conditions in every sick young infant.

Eye assessments are done at birth, 6 and at 9 Months.

Red, swollen eyes or eyes draining pus may be caused by bacteria (e.g. gonococcus, Chlamydia, staphylococcus) that are usually transmitted to the baby at the time of birth.

Most causes of newborn eye problems will respond to local treatment.

Refer to page 33 of the IMNCI Chart Booklet on Check for Eye Infections and Conditions
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define Dehydration.
- Describe Common Causes of Dehydration.
- Assess and Classify Dehydration.
DEHYDRATION

Dehydration is the loss of body water and nutrients faster than they can be replaced normally.

Newborns have much smaller reserves of water in the body and therefore infants and young children especially when battling illness that rapidly depletes fluids can become dehydrated more quickly than adults.
COMMON CAUSES OF DEHYDRATION IN SICK YOUNG INFANTS

- **Vomiting** - Forceful expulsion of the content from the stomach through the mouth and sometime through the nose

- **Fever** - Temperature that is 37.5 °C or above or feels hot

- **Refusal to breastfeed** - The sick young infant refusal to take breast milk orally

- **Diarrhoea** - A young infant has diarrhoea if the stools have changed from usual pattern and are many and watery (more water than the fecal matter)
  - The normally frequent semi-solid fluids in a breastfed baby are not diarrhoea
ASSESS FOR SIGNS OF DEHYDRATION:

The assessment is similar to that of the older child except that we do not test for ability to drink using water.

Generally thirst is not assessed because it is not possible to distinguish between thirst and hunger in a young infant.

Common signs of dehydration in a sick young infant include:

1. Movement only when stimulated or no movement at all
2. Sunken eyes
3. Skin pinch goes back very slowly/slowly
4. Child not passing urine
5. Child not able to breastfeed
6. Restless and irritable

Refer to page 34 of the IMNCI Chart Booklet on Look for signs of dehydration
CHECK FOR HIV EXPOSURE AND INFECTION
Sick Young Infant: Check for HIV exposure and infection

ASK:

• Has the mother and/or young infant had an HIV test?

LOOK AND DIAGNOSE

IF YES, ASK:
• What is the mother’s HIV Status?
• Is mother is on ART and young infant on ARV prophylaxis?

IF NO TEST:
• Perform HIV test for the mother.
• If possible, perform DNA PCR test for the young infant.

IF MOTHER IS NOT AVAILABLE:
• Do an antibody test on the child. If positive, do a DNA PCR test.

NB: Refer to Early Infant Diagnosis Algorithm on pg. 60 and HIV care for children on pg. 20 and 21
HIV CARE FOR CHILDREN

WHAT TO START: CHILDREN

<table>
<thead>
<tr>
<th>AGE/WEIGHT</th>
<th>REGIMEN</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2 weeks</td>
<td>AZT/3TC +NVP</td>
<td>As per 2016 ART guidelines</td>
</tr>
<tr>
<td>&gt;2 weeks - &lt;3 years</td>
<td>ABC/3TC + LPV/r</td>
<td>Once a child attains 25kg switch from LPV/r to ATV/r</td>
</tr>
<tr>
<td>3 years – 14 years</td>
<td>ABC/3TC + EFV</td>
<td>Children with contraindication to EFV can use LPV/r or ATV/r as recommended (see pg 21)</td>
</tr>
<tr>
<td></td>
<td>ABC/3TC + DTG</td>
<td>For children &gt;35kg DTG is preferred instead of EFV</td>
</tr>
<tr>
<td>&gt;15 years</td>
<td>TDF/3TC/DTG</td>
<td>Use FDC for better adherence</td>
</tr>
</tbody>
</table>

DOSAGE OF COTRIMOXAZOLE PROPHYLAXIS

<table>
<thead>
<tr>
<th>WEIGHT (KG)*</th>
<th>SUSPENSION 240MG PER 5ML</th>
<th>SINGLE STRENGTH TABLET 480MG (SS)</th>
<th>DOUBLE STRENGTH TABLET 960MG (DS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>2.5ml</td>
<td>¼ SS tab</td>
<td>-</td>
</tr>
<tr>
<td>5-8</td>
<td>5ml</td>
<td>½ SS tab</td>
<td>⅛ DS tab</td>
</tr>
<tr>
<td>9-16</td>
<td>10ml</td>
<td>1 SS tab</td>
<td>½ DS tab</td>
</tr>
<tr>
<td>17-30</td>
<td>15ml</td>
<td>2 SS tab</td>
<td>1 DS</td>
</tr>
<tr>
<td>&gt;30 (Adults and adolescents)</td>
<td>-</td>
<td>2SS</td>
<td>1DS</td>
</tr>
</tbody>
</table>

*Dose by body weight is 24-30 mg/kg once daily of the trimethoprim-sulphamethaxazole – combination drug.

ART Treatment in children with TB

<table>
<thead>
<tr>
<th>AGE/WEIGHT</th>
<th>FIRST LINE TB/HIV CO-INFECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 Weeks</td>
<td>Start TB treatment immediately, start ART (Usually after 2 weeks of age) once tolerating TB drugs</td>
</tr>
<tr>
<td>&gt; 2 Weeks and &lt;35kgs</td>
<td>ABC/3TC/LPV/RTV If not able to tolerate super boosted LPV/RTV then use ABC/3TC + RAL for duration of TB treatment After completion of TB treatment revert back to the recommended 1st line regime ABC/3TC +LPV/r</td>
</tr>
<tr>
<td>&gt;35 kgs body weight and &lt; 15 years age</td>
<td>ABC/3TC/DTG continue with the regimen AND double the dose for DTG If on PI based regimen switch the patients to DTG, hence doubling the dose</td>
</tr>
</tbody>
</table>

*ART* stands for Antiretroviral Therapy.
### HIV CARE FOR CHILDREN

#### PAEDIATRIC ARVs DOSAGES

<table>
<thead>
<tr>
<th>WEIGHT RANGE (KG)</th>
<th>FIXED DOSE COMBINATIONS</th>
<th>EFAVIRENZ (EFV)</th>
<th>LAMIVUDINE ZIDOVUDINE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ABACAVIR + LAMIVUDINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZIDOVUDINE + LAMIVUDINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWICE DAILY</td>
<td>TWICE DAILY</td>
<td>ONCE DAILY</td>
<td>TWICE DAILY</td>
</tr>
<tr>
<td>120 mg ABC +60mg 3TC</td>
<td>60mg ZDV + 30mg 3TC</td>
<td>200mg Tab</td>
<td>200mgs Tab</td>
</tr>
<tr>
<td>3 - 5.9</td>
<td>0.5 tab</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6 - 9.9</td>
<td>1 tab</td>
<td>-</td>
<td>-</td>
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<td>300mgs + 150mgs</td>
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#### PAEDIATRIC ARVs DOSAGES - LOPINAVIR/RITONAVIR

<table>
<thead>
<tr>
<th>FORMULATION</th>
<th>AGE CATEGORY</th>
<th>RATIONALE</th>
</tr>
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<tbody>
<tr>
<td>Liquid (80/20mg)</td>
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<td>Easy to swallow for the infant and/or child</td>
</tr>
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<td>Tablets (100/25mg)</td>
<td>5 years and older children</td>
<td>Able to swallow the whole tablets</td>
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</tbody>
</table>

Refer to Guidelines on Use of Antiretroviral Drugs for Treating and Preventing HIV Infections in Kenya available at http://www.nascop.or.ke

#### SIMPLIFIED WEIGHT BAND DOSING SCHEDULE FOR LPV/r

<table>
<thead>
<tr>
<th>Weight Band (Kg)</th>
<th>LPV/r 80mg/20mg per ml oral liquid</th>
<th>Number of LPV/r 10mg/25 mg Oral tablets</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-4.9kg*</td>
<td>AM 1ml</td>
<td>PM 1ml</td>
</tr>
<tr>
<td>5-5.9kg</td>
<td>AM 1ml</td>
<td>PM 1ml</td>
</tr>
<tr>
<td>6-9.9kg</td>
<td>AM 1.5ml</td>
<td>PM 1.5ml</td>
</tr>
<tr>
<td>10-13.9kg</td>
<td>AM 2ml</td>
<td>PM 2ml</td>
</tr>
<tr>
<td>14-19.9kg</td>
<td>AM 2.5ml</td>
<td>PM 2.5ml</td>
</tr>
<tr>
<td>20-24.9kg</td>
<td>AM 3ml</td>
<td>PM 3ml</td>
</tr>
<tr>
<td>25-29.9kg</td>
<td>AM NR</td>
<td>PM 3</td>
</tr>
<tr>
<td>30-34.9kg</td>
<td>AM NR</td>
<td>PM 3</td>
</tr>
<tr>
<td>&gt;35kg</td>
<td>AM NR</td>
<td>PM 4</td>
</tr>
</tbody>
</table>

Substitute LPV/r to ATV/r if above 40kgs
NR= Not Recommended
CHECK FOR FEEDING PROBLEM, LOW WEIGHT OR LOW BIRTH WEIGHT
HEALTH CARE PROVIDERS SHOULD BE ABLE TO:

Objectives:

- Define Feeding Problem.
- Describe Types of Feeding Problem.
- Describe causes of Feeding Problem.
- Assess and Classify Feeding Problem
Feeding problems are estimated to occur in up to 25% of normally developing children and in up to 35% of children with neurodevelopmental disabilities.

One common definition of feeding problems is the inability or refusal to eat certain foods, poor position and attachment.

Problems with feeding may lead to significant negative nutritional, developmental and psychological conditions.

Because the severity of feeding problem is related to the age at onset, early recognition of the degree and duration of the feeding problem and management is important.
<table>
<thead>
<tr>
<th>Promoting factors</th>
<th>Hindering Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinks lovingly of baby</td>
<td>Worry</td>
</tr>
<tr>
<td>Sounds of baby</td>
<td>Stress</td>
</tr>
<tr>
<td>Sight of baby</td>
<td>Pain</td>
</tr>
<tr>
<td>Touches baby</td>
<td>Full breast</td>
</tr>
<tr>
<td>Confidence</td>
<td>Doubt</td>
</tr>
</tbody>
</table>
BENEFITS OF BREASTFEEDING

Baby

- Provides adequate nutrition in the first 6 months
- Contains vitamins and minerals
- Contains antibodies - improves baby’s immune system
- Provides warmth

Mother

- Involution of the uterus
- Speeds up separation of the placenta
- Improves bonding between baby and mother
- Cost-effective
- Protects against pregnancy
**EARLY INITIATION OF BREASTFEEDING**

**Benefits:**
- Helps keep the baby warm
- Ensures the baby gets colostrum
- Assists in prevention of Post Partum Haemorrhage (PPH) and involution of the uterus

**Consequences of delayed initiation of breastfeeding:**
- Breast engorgement, painful breasts.
- Poor attachment, hunger and irritability – mistaken for illness – Gripe water syndrome.
- Triggering pre-lacteal feeds and eventually, an array of incorrect newborn feeding practices.
EXCLUSIVE BREASTFEEDING

• It is the practice of feeding only on breast milk with no additional food, water or fluids with the exception of medicine and vitamins, if prescribed.

• Exclusively breastfeed for 6 months
POSITIONING

Signs of good positioning include:

- The mother is relaxed and comfortable
- The baby’s head and body are in a straight line
- The baby’s facing the mother’s breast with nose opposite the nipple
- Baby’s body close to the mother’s body
- Mother supporting baby’s whole body not just neck and shoulders
POSITIONING

Good position
Head and body in line, body close to the mother, baby’s whole body supported.

Poor Position
Neck twisted, body away from mother, only under body supported.
Signs of good attachment include:

- The mouth is widely open
- The lower lip is turned outwards
- The chin is touching the breast
- More areola is visible above the baby’s mouth than below it.
CONSEQUENCES OF POOR ATTACHMENT

• These include:
  ➢ Painful nipples
  ➢ Damaged nipples
  ➢ Engorgement
  ➢ Baby unsatisfied and cries a lot
  ➢ Baby feeds frequently and for a long time
  ➢ Decreased milk production
  ➢ Baby fails to gain weight
Fig. 1  a. A baby well attached to his mother’s breast
(Fig. 19 in Participants’ Manual)

b. A baby poorly attached to his mother's breast

Refer to IMNCI Chart Booklet pg. 36 assessment for positioning and attachment
LOW BIRTH WEIGHT (LBW) BABIES
IDENTIFICATION OF LBW BABIES: PHYSICAL EXAMINATION

- **Weight**: Less than 2500 grams

- **Skin**: Thin with visible veins due to lack of fat under the skin, may be covered at birth with thick white cheese-like oily substance (vernix)

- Covered with fine, soft hair (lanugo)

- **Head; Relatively** large when compared with size of body

- Sutures and soft spot (fontanel) are wide

- Ear has no cartilage before 25 weeks, the ear can be folded and does not return immediately to the normal place
BIRTH WEIGHT – LOW, VERY LOW & NORMAL

- **Low-birth-weight infant**: Infant with birth weight lower than 2500gms (up to and including 2499gms), regardless of gestational age

- **Very low-birth-weight infant**: Infant with birth weight lower than 1500gms (up to and including 1499gms), regardless of gestational age

- **Normal birth-weight infant**: Infant with birth between 2500gms to 3900gms
Identification of LBW

- **Chest**: No breast tissue before 34 weeks of pregnancy
- **Suck reflex**: May be weak or absent. May be floppy.
- **Legs/arms**: Legs mostly extended or minimally flexed, arms only occasionally flexed or even extended.
- **Feet**: Foot creases on anterior 1/3 of foot.

**Genitals: Small**
- Girls: labia majora do not cover the labia minora.
- Boys: testes may not have descended into the scrotum, absent or few creases on scrotum.
### Basic needs of low birth weight
- Warmth
- Breathing
- Feeding
- Protection from infections
- Psychological and emotional support

### Common problems in low birth weight
- Breathing problems
- Feeding problems
- Jaundice
- Oral thrush
- Skin pustules
- Eye discharge
- Redness of cord

### Indications for Referrals
- Babies with danger signs
- No improvement after treatment of common illnesses
- Failure to thrive

NB: A referral could be from a community to a health facility, or from a lower level facility to a higher level, or between departments in a facility
KANGAROO MOTHER CARE (KMC)
Kangaroo Mother Care is a natural method for caring for low birth weight infants with early, prolonged continuous skin-to-skin contact between a mother or her surrogate and her preterm baby or low birth weight infant.

It is a simple, safe and cost effective method of caring for low birth weight infants.

In KMC, the baby is placed skin-to-skin against the mother’s chest wearing only a nappy, hat and socks, and secured in an upright position between the mother’s breasts by wrapping a cloth around both mother and baby.

The skin-to-skin contact should be initiated immediately after delivery and continued until baby no longer tolerates the KMC position or reaches 2500 gms.
Continuous KMC - baby is in the skin-to-skin position for 24 hours every day (except for very short periods when the mother has to bath or use the toilet).

- Continuous KMC is initiated as soon as after delivery as possible unless the baby has complications.

- It is continued at home when mother and baby are discharged. It requires the support from family members, including the father of the baby.
2. **Intermittent KMC** – the baby is put in skin-to-skin contact for a few hours each day.

When not in KMC position the baby is kept warm in an incubator or warmly wrapped.

**Indications:**
- very small and/or sick babies,
- Mother/surrogate not physically fit and/or not willing for continuous KMC.
- Inadequate space in a KMC unit

**Examples:**
- Infants receiving intravenous fluids or mothers who are recovering from surgery (e.g. caesarean section).
WHO CAN PROVIDE KANGAROO MOTHER CARE?

- Everyone can provide KMC for a baby as long as they understand the method, and are motivated to practice it.

- Make sure hygiene is being maintained.

- Example: grandmothers, sisters, aunties, husbands and even friends.

- NB- mother to be with her babies most of the time for bonding and exclusive breastfeeding.
BENEFITS OF KMC

Mother/ Caregiver

- The mother’s confidence in caring for her infant is boosted
- Improved bonding between mother and infant due to the physical closeness between them
- Mothers are empowered to play an active role in their infants care
- Mothers are enabled to become the primary care giver of their infants
- Breast feeding is promoted which has benefits for both mother and baby

Health Facility

- Significant cost-savings as well as
- Less dependence on incubators
- Additional nursing staff not required (compared to incubator care)
- Shorter hospital stay
- Improved morale & quality of care
- Better survival
ELIGIBILITY FACTORS: MOTHER & BABY

Mother

• Willingness of the mother or other family member to provide KMC
• Full-time availability of the mother or other family member
• General health of the mother
• Supportive family
• Supportive community

Baby

• All stable babies with birth weight below 2500g
• Babies weighing between 1200g and 1799g should be stabilized then started on KMC as soon as possible
• Babies weighing less than 1200g should be referred immediately to a centre that can offer intensive neonatal care.
CHECK YOUNG INFANT’S IMMUNIZATION

CASE MANAGEMENT
SPECIAL CONSIDERATION ON IMMUNIZATION.

- Pre-term infants and low birth weight infants (<2kgs.) should receive the BCG vaccine at the time of discharge from hospital irrespective of the current weight.

- If the pre-term or low-birth weight baby was born at home, BCG vaccination should be given at first contact with the health facility just like all babies born at home.

- Remember that you should not give OPV 0 (zero) to a young infant who is more than 14 days old as this will disorganize the schedule.

- If a young infant has not received OPV 0 by the time he is 15 days old, DO NOT GIVE OPV 0. Give OPV1 when s/he is 6 weeks old together with Penta 1, PCV 10 and 1 Rota v 1.
ASSESS CARE FOR DEVELOPMENT

Refer to care for development module in the older child section
CHECK FOR SPECIAL TREATMENT NEEDS

CASE MANAGEMENT
HASSESS AND CLASSIFY FOR SPECIAL TREATMENT NEEDS

ASK, CHECK, RECORD

- Has the mother had within 2 weeks of delivery
- Fever >38°C within 2 weeks of delivery?
- Infection treated with antibiotics?
- Membranes ruptured > 18hrs before delivery
- Foul smelling liquor

Tested VDRL Positive

Does the mother/caregiver/close household contact have TB disease?

Is the infant receiving other foods or drinks?

CLASSIFY

Refer to the IMNCI Chart booklet page 38
IDENTIFY TREATMENT & TREAT THE SICK YOUNG INFANT
Health Care Providers Should be able to:

Objectives:

**Identify Treatment**
- Identify appropriate treatment
- Understand treatment regimens

**Treat the child**
- Determine and give appropriate treatment
- Administer first treatment for various classifications at health facility
- Teach the caregiver how and when to give treatment at home

**Refer Urgently**
- Determine if admission or urgent referral is needed
- Identify and give appropriate pre-referral treatment
TREATMENT DECISION MAKING

Does the child require urgent referral?

NO

- Identity treatment
- Give 1st dose at health facility
- Give return date for follow up & counsel the mother

YES

- Identify urgent pre-referral treatment
- Administer treatment & refer urgently
- Where referral is NOT possible, refer to the management of PSBI
IDENTIFY TREATMENT AND TREAT THE YOUNG INFANT

- For each of the young infant’s classification:
  - Determine if young infant needs urgent referral
  - Identify pre-referral treatment needed, give the treatment, treat to prevent low blood sugar, keep infant warm then refer.
  - **Determine if referral is not possible**
  - Teach the Mother how to treat at home
  - Advice the Mother to give home care
NEONATAL RESUSCITATION

CASE MANAGEMENT
Health Care Providers Should be able to:

Objectives:

- Define neonatal resuscitation.
- Preparation for neonatal resuscitation
- Describe step 1- step 4 of neonatal resuscitation
Neonatal resuscitation

Asphyxia is when the baby does not begin or sustain adequate breathing.

You cannot always tell which babies will have asphyxia at birth. Therefore, you must be prepared to do New-born resuscitation at all births.

Preparations include: warming the resuscitation area, preparing a clean surface for the resuscitation, and collecting equipment and supplies.
Newborn babies are fluid covered, they lose heat through:

- Evaporation
- Convection
- Radiation
- Conduction

If a baby gets cold it:

- Switches off surfactant production
- Increases energy (glucose) requirement

So we must keep them warm and dry
BEING PREPARED FOR NEWBORN RESUSCITATION

Needed for all resuscitations – ready in advance!

- Hand hygiene
- Warm environment - Overhead warmer
- Warm dry towels
- Firm stable surface & Lighting
- Bag Valve Mask device (not damaged)
- Wide bore sucker
- (Oxygen)- room air is adequate for immediate resuscitation
- (Clock)
INTerventions required by newborns: assessment at birth and routine care

- Drying, warmth, positioning & clearing the airway, stimulation (80-90%)
- Bag and mask ventilation (8-10%)
- Chest compressions (3-6%)
- Medications (<1%)
STEP 1: NEWBORN RESUSCITATION – NO MECONIUM

Dry and Stimulate → Cry / Breathing / Activity?
STEP 2: NEWBORN RESUSCITATION – NO MECONIUM

Dry and Stimulate

Cry / Breathing / Activity?

No

Position & Check **Airway** – clear if required – and check **Breathing**

Yes

Mother for skin to skin
Initiate breastfeeding
NEWBORN RESUSCITATION – NO MECONIUM

Position & Check **Airway** – clear if required – and check **Breathing**

B Not OK

**Call for help**

Initiate ventilation and continue ventilation at 30breaths/min for 60 seconds

(Person Two): Feel for HR
STEP 3: HOW TO VENTILATE WITH BAG AND MASK

1. Put head in neutral position
2. Position the mask on the face
3. Firm seal between the mask and the face

Squeeze bag to produce a gentle movement of the chest

Do not over-ventilate

*Note ‘C’ & ‘E’ grip*
Initiate and continue ventilation at 30/min for 60 seconds. **Making sure the chest rises**

Feel for Heart Rate

Heart Rate > 60 / min

Continue ventilation for 1 minute

Reassess ABC
NEWBORN RESUSCITATION – NO MECONIUM

Initiate and continue ventilation at 30/min for 60 seconds

**Making sure chest rises**

Feel for Heart Rate

**Heart Rate < 60 / min**

Give 1 ventilation

**Then:** Give 3 chest compressions
Give 3 compressions : 1 breath for 30 cycles in 1 minute

Reassess ABC
The chest must rise with each BVM ventilation
RESUSCITATION – STEP 4 - CIRCULATION

- Compress over sternum 1 finger-breadth below nipple line, \(\frac{1}{3}\)rd the depth of the chest
WHAT ABOUT MECONIUM?

- If the baby has **never taken a gasp / cried** then check the airway **before drying** and suction the oropharynx ‘to where you can see’ and **then dry the baby**

- If the baby has already cried then **do not suck** unless there is something in the airway

- Routine suction of the **lower airway** is not recommended

- If there is **no meconium** then the first action is **to dry the baby**
OXYGEN DURING RESUSCITATION

- Why oxygen is not needed in the first few minutes?
- Immediate resuscitation with oxygen can cause harm.
  - *About ¼ of resuscitated babies may need oxygen after 4-5 minutes of resuscitation.*
  - Oxygen blenders should ideally be used
  - Titrate to achieve correct saturations for healthy term babies and pre-terms
  - Priority is **ventilation** – do not stop resuscitation to look for oxygen.
Drugs that are not recommended

- Sodium bicarbonate / aminophylline / hydrocortisone / 50%dextrose!

Where a 3rd helper is available, adrenaline may have a role during CPR (make sure CPR is effective)

- Adrenaline dose is 0.1-0.3ml/kg given via central IV line

For the hospital providing advanced care -

- Laryngoscope, ET tubes (sizes 2.0 to 4.0), Scissors and tape
- Drugs-Adrenaline, IVF (Volume),
POST-RESUSCITATION CARE

- Supplemental oxygen (based on adequacy of breathing)
- Check/communicate need for admission
- Appropriate feeding
- Vitamin K and TEO
- Appropriate Cord care with 7.1% Chlorhexidine Digluconate
- PITC for HIV exposure
WHEN REFERRAL IS NOT POSSIBLE - IN SICK YOUNG INFANT WITH POSSIBLE SERIOUS BACTERIAL INFECTION (PSBI) OR VERY SEVERE DISEASE

CASE MANAGEMENT
MANAGING POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE IN SICK YOUNG INFANTS WHEN REFERRAL IS NOT FEASIBLE

- Even when the signs of PSBI or very severe disease are detected, hospitalization and life-saving treatment may not be accessible, acceptable or affordable to families.

- When the family cannot access or does not accept referral, further assessment and classification of the sick young infant with PSBI or very severe disease is recommended.

- After the classification, simplified antibiotic treatment by a qualified health care worker at the primary health care facility should be administered.

- These guidelines do not replace the Ministry of Health recommended inpatient management at hospital as the standard of care for young infants who have signs of PSBI or Very Severe Disease.

- Refer to the section on THE SICK YOUNG INFANT WHERE REFERRAL IS REFUSED OR NOT FEASIBLE Page 37 on further classification and pg. 42 on treatment of PSBI.
COUNSEL THE MOTHER

- On keeping child warm-Chart booklet page 44
- How to treat local infections at home – page 43
- On Positioning and attachment for breastfeeding- page 44
- Teach the Mother how to treat breast or nipple problems- page 44
- When to return for follow up visit, immediately and for immunizations page 45
- On umbilical cord care- page 45
- On her own health – page 31
WHEN TO RETURN IMMEDIATELY

BRING ANY SICK CHILD IF:
- Not able to drink or breastfeed
- Becomes sicker
- Develops fever

BRING CHILD WITH COUGH IF:
- Fast breathing
- Difficult breathing

BRING CHILD WITH DIARRHOEA IF:
- Blood in stool
- Drinking poorly

BRING YOUNG INFANT TO CLINIC IF ANY OF THE ABOVE SIGNS OR:
- Breast feeding poorly
- Feels unusually cold/hot
- Palms and soles appear yellow

5/2/18
GIVE GOOD HOME CARE FOR YOUR CHILD

FOR ANY SICK CHILD:

- If child is breast-fed, breastfeed more frequently and for longer at each feed.
- If child is taking breast milk substitutes, increase the amount of milk given.
- Increase other fluids. You may give soup, rice, water, yoghurt drinks or clean water. Give these fluids as much as the child will take. Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes then continue - but more slowly.
- Continue providing extra feeding for up to 2 weeks.

EXCLUSIVELY BREASTFEED THE YOUNG INFANT

- Give only breast-feeds to the young infant.
- Breastfeed frequently, as often and for as long as the infant wants.

MAKE SURE THAT THE YOUNG INFANT IS KEPT WARM AT ALL TIMES

- In cool weather cover the infant's head and feet and dress the infant with extra clothing.

FOR CHILD WITH DIARRHOEA

- Breastfeed frequently and for longer at each feed.
- Give fluids:
  - ORS
  - Food based fluids such as soup, rice water, yoghurt drinks
  - Clean water
- Give Zinc supplement
- Continue giving extra fluid until the diarrhoea stops
LEARNING OBJECTIVES

Health Care Providers Should be able to:

- Determine whether initial or follow up visit.
- Reassess and Classify the child fully.

Make a Follow up

Treat the child

- Offer treatment:
  - (a) for any new illness, or
  - (b) continue treatment if child improving, or
  - (c) change to second-line treatment if child not improving.

Refer Urgently

- Determine if admission or urgent referral is needed
- Identify and give appropriate pre-referral treatment
INTRODUCTION

• Some sick children need to return to a health worker for follow up as previously instructed on; when to return.

• During follow up, the health worker can determine if the child is improving on treatment.

• The Health worker will decide on the next course of action.
FOLLOW UP 1

Review follow up schedule on chart booklet page 31. Follow up is also found as last column of the assess and classify chart (page 4 to 11).

Always ask the mother about the child’s problem.

Once you establish the child has come for follow up, ask if child has developed any new problems.

A child with a new problem requires a full assessment.
FOLLOW UP 2

- If a child has no new problem, locate and follow instructions in the relevant follow up box in the chart booklet pages 22 to 24; 46 to 47.

- Children who;
  - are not responding to treatment, or
  - get worse, or
  - repeatedly return to the clinic with new problems,
    should be admitted or referred to Hospital.
EXAMPLE 2-PNEUMONIA

• After 2 days
• Check the child for general danger signs.
• Assess the child for cough or difficult breathing.
• **ASK:**
  • Is the child breathing slower?
  • Is there less fever?
  • Is the child eating better?
• **TREATMENT**
  • If any general danger sign, give a dose of second-line antibiotic, then **ADMIT** or **REFER URGENTLY** to hospital.
  • If chest in drawing, breathing rate, fever and eating have not improved change to second-line antibiotic and **ADMIT** or **REFER**.
  • If breathing slower, less fever or eating better, complete the 5 days of antibiotic.
FEEDING PROBLEM (REFER TO PG. 25&27)

- Reassess the child after 5 days
- Ask about any feeding problem found on the initial visit
- Then, counsel the mother/caregiver on any new or continuing feeding problem
- For low weight children, advice the caregiver to return after 14 days, after the initial visit, in order to check the child’s weight gain
PALLOR

- Follow up after 14 days
- Give iron and folate and advice the mother to return in 14 days for more.
- Continue with the iron and folate every 2 weeks for 2 months
- Incase of persistent for more than 2 months, refer for assessment
MALNUTRITION

• Follow up after 14 days,

• If the child is gaining weight, encourage the mother to continue with feeding. Counsel the mother about any feeding problem

• For severe acute malnutrition without complications and moderate acute malnutrition, refer to page 24 of the chart booklet
HIV INFECTED & EXPOSED CHILDREN

• Follow up after 1 month

• Asses the child’s general condition. Do a full assessment.(refer to pg 4-11) and manage any condition found

• Plan for defaulter tracking system

• Screen for possible TB disease(refer to pg. 58)
FOLLOW UP SUMMARY

- Discuss follow up actions for other conditions as appears in Chart booklet pages 22 to 24 & 46 to 47.
ANNEX: TOOLS

Service Delivery Tools:

- Under 5 register (updated to include IMNCI Indicators)
- Under 5 Tally Sheet (updated to include IMNCI Indicators)
- Under 5 summary (updated to include IMNCI Indicators)
- Supervision Tool (updated to include IMNCI Indicators)

IMNCI Tools

- Follow Up Assessment of IMNCI Trained HCWs for Certification (at least 6 weeks post training)
- Service & Data Quality Assessment reports
- IMNCI Mentorship reports
IMNCI MOBILE APP

- Available for FREE
ANNEX: ADDITIONAL RESOURCES

Policy Guidelines for Management of Diarrhoea in Children Below Five Years in Kenya
August 2014

A guideline for the use of Chlorhexidine for newborn umbilical cord care in Kenya
April 2016

BASIC PAEDIATRIC PROTOCOLS
for ages up to 5 years
February 2016
4th Edition
ANNEX: ADDITIONAL RESOURCES

National Guideline for Integrated Management of Acute Malnutrition

NATIONAL GUIDELINES FOR THE DIAGNOSIS, TREATMENT AND PREVENTION OF MALARIA IN KENYA

MANAGEMENT OF DIARRHOEA

Continous Medical Education Booklet

May, 2014 Edition
ANNEX: ADDITIONAL RESOURCES

NOT FOR SALE
MOH216

MOTHER & CHILD HEALTH HANDBOOK
AFYA YA MAMA NA MTOTO

Name of Mother:
Child’s Name:
Contact Phone Number:

Onyeshu kitabu hiki kila mara uendapo kliniki ya mama na mtoto
Carry this booklet at all times during a visit to the health facility
and show it to the health worker
REVISED EDITION JUNE 2016

Guidelines on Use of Antiretroviral Drugs for Treating and Preventing HIV Infection in Kenya
2016 Edition

Management of Childhood Pneumonia and Respiratory Distress

Continuous Medical Education Booklet
May 2018