

# MODULE THREE



## GENERAL COMMUNITY HEALTH VOLUNTEER Community Based Management of ARI in Childhood



Community Health Services Division  
Ministry of Health and Social Welfare  
Monrovia, Liberia

Revised December 2011

## **SESSION 1: INTRODUCTION**

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Acute respiratory infections (ARI) are a “cough and cold” sicknesses that give breathing problems such as pneumonia, cough and fresh cold.

This general Community Health Volunteer (gCHV) training manual will help the gCHV to how to identify and treat under 5 children with Cough and cold in their community.

Serious cough and cold such as Pneumonia are a major cause of sickness and death in young children throughout the world. They account for nearly 3.9 million deaths in the world every year. For every 10 children coming to the hospital or clinic, 3 or for complain of breathing problems. On an average every child has 5 to 8 attacks of cough and cold every year.

In Liberia, ARI/cough and cold is one of the leading causes of sickness among children under five. Early recognition and treatment with antibiotics can prevent a large number of child deaths caused by Pneumonia (ARIs).

## COURSE OBJECTIVES

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- By the end of this training, participants (gCHVs) will be able to:
- Describe the meaning of ARI, cough and cold, and pneumonia
- Describe what pneumonia looks like in children under 5 (signs and symptoms)
- Explain the dangers signs of untreated pneumonia
- Identify the different types of cough and cold (ARI) and how to manage them
- Recognize the danger signs for young infants (0-2 months)Recognize the danger signs for children (2 months to 5 years)
- Count the breathing rates in children under 5 correctly.
- Know when and how to refer children with breathing problems
- Do follow up of referred and home managed cases
- Counsel caregivers on home management of a sick child with ARI/cough and cold
- Record appropriate information and report timely

## 1.1 GERMS REVISITED

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- The common sickness that affect people are spread from one person to another.
- The thing that causes sickness is called **germ**.
- Germs are so small that it is not possible to see them with your eyes except through a machine called **microscope**.
- Some germs called **viruses** are so small they are even difficult to see in the microscope.
- Just as poo poo,(*stool*) carries germs so does coughing, saliva, and “fresh cold” runny nose. These germs live in the water that drops from the nose and the mouth
- The germ can get in the air and be breathed in by another person or the germ water can be on our hands and spreads fresh colds and pneumonia (ARIs) to other people through handshake.
- This spread of germs to the lungs is especially dangerous to children under-five.

Coughing into the air and on hands that do not get washed *after* spreads germs to other people

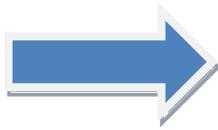


## 2.0 DEFINITION: WHAT IS ARI?

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ARI (Acute Respiratory Infection) is an infection that affects the nose, throat, ear and chest (lungs) causing cough and cold

### 2.1 Types of ARI



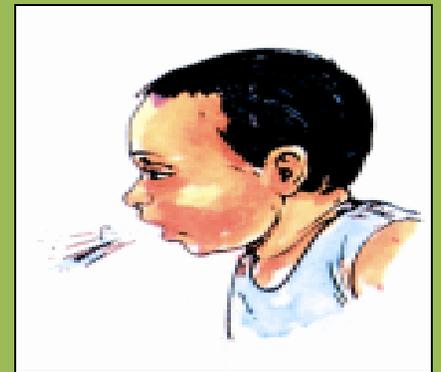
#### ARI can be:

1. **Cough and cold** (infection in the nose, throat and ears)
2. **Pneumonia** (infection in the lung / chest)

## 3.0 SESSION 3: COUGH AND COLD

- Cough and cold is a mild sickness in the nose, throat and ears that may be managed at home.
- The child may sometimes have hot body (fever).
- Any child who has been sick with fresh cold or cough for more than 14 days (2 weeks) needs to be **referred** to the health facility.

A child coughing and sneezing



### 3.1 WHAT COUGH AND COLD LOOKS LIKE. (SIGNS AND SYMPTOMS):

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1. Running nose
2. Coughing
3. Sneezing
4. Fever

- Coughs and cold can get very bad in children and develop into a very serious sickness called **pneumonia**.
- **Pneumonia** can cause serious breathing problem and can lead to death.
- Mothers/ Caregivers of children under 5 with cough and cold should be counselled on how to prevent cough and cold from developing into pneumonia.

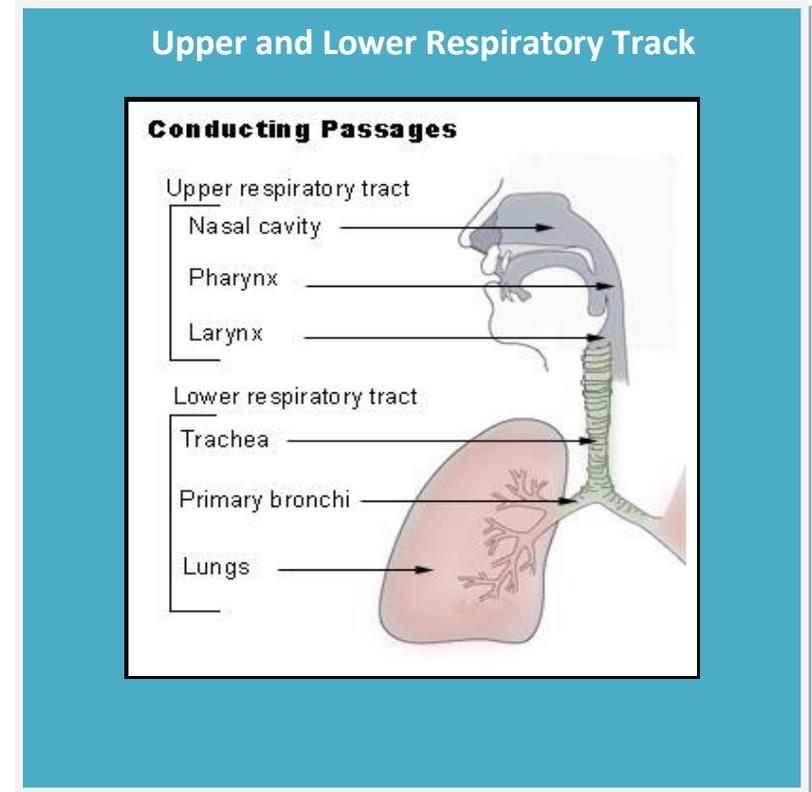
## 4.0 SESSION 4: PNEUMONIA

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Pneumonia is a sickness in the Chest (especially the lungs) that cause serious breathing problems. Death may occur if the child is not taken to the clinic and treated **quick quick**.

### 4.1 SIGNS AND SYMPTOMS:

- 1) Fast breathing
- 2) Fever
- 3) Grunting
- 4) Chest in drawing
- 5) Coughing
- 6) The child is unable to relax (restless) and is extremely weak & tired (*lethargic*)



## 4.2 WHERE CAN A CHILD WITH PNEUMONIA BE TREATED?

**A child with pneumonia can be treated:**

1. In the community by gCHV
2. At the health facility

**gCHV in the community**



**Health Facility (Clinic or Hospital)**



## 5.0 ARI AGE GROUPS OF CHILDREN:

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- Normal breathing rate changes depending on the age of a child.
- A small baby breathes faster than an older child.
- The gCHV must separate children according to the below three age groups and know the normal breathing rates for each age group.
- The gCHV will be able to identify fast breathing in these children compared with their normal breathing rates.
- Dangers signs are not exactly the same in the different age groups.

### 1. Young Infant: A child less than 2 months old



### 2. A child 2 months up to 11 months



### 3. A child 1 to 5 years

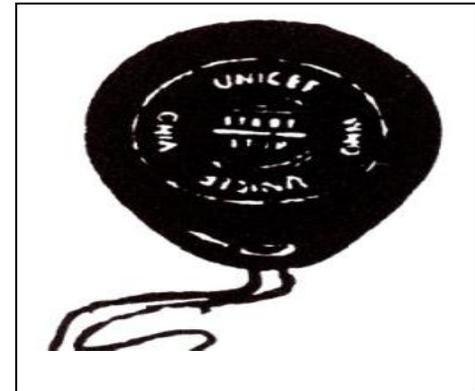
## 6.0 FAST BREATHING

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- Fast breathing is a major sign of pneumonia and is measured by counting the breathing rate.
- The number of breaths in one minute is called the breathing or *respiratory* rate (R/R).
- The average breathing rate is different according to the child's age.
- The breathing rate for young infants (0-2 months) is normally faster than for older children (2 months to 11months and 1 to 5 year old children).
- It is important to remember the two age groups and what breathing rate indicates pneumonia.

**Pneumonia** is a sickness deep in the chest (lungs) caused by germs and it causes fast and difficult kinds of breathing.

- The gCHV needs to always look directly at the child's naked chest to see exactly how they are breathing.
- The gCHV needs to count the number of breaths (one breath is both in and out) taken in exactly one minute using the respiratory timer.
- The gCHV needs to check the chart below to know the age of the child and if the child's breathing rate indicates pneumonia.



The Respiratory Timer

## 6.2 AGE GROUP NORMAL BREATHING RATES

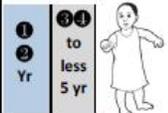
**Birth to less than 2 months:** less than 60 breaths per minute

**Children 2 to 11 months:** less than 50 breaths per minute

**Children 1 to 5 years:** less than 40 breaths per minute

- **Refer every child** that is less than 2 months and has a breathing rate of more than 60
- Treat every child 2 to 11 months with a breathing rate between 50 and 60 breaths per minute with NO danger signs.
- Treat every child 1 to 5 years with a breathing rate of 40 to 60 breaths per minute with no danger signs.

Note: Refer every child with a breathing rate of over 60!

<p>2-11 months</p> 	<p>50 to 60 breaths per minute (with no danger signs)</p>	<p>Treat children by the qCHV (see reverse)</p> 	<p>&lt; 50 breaths per minute (with no danger signs)</p>
<p>1-5 years</p> 	<p>40 to 60 breaths per minute (with no danger signs)</p>		<p>&lt; 40 breaths per minute (with no danger signs)</p>

### 6.3 TAKING THE BREATHING RATE:

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The gCHV should use the timer to count the breath per minute as shown in the photo. The infant or child should be in a **calm** and **in a resting** position throughout the counting. Re-take the count, if child can't sit down or is crying. Count the breathing rate for one complete minute, never guess the child's breathing rate.

#### Instructions:

- a) Ask the parent to lift the child's shirt so that you can see the child's belly and chest. You should notice the child breathing in and out. A very sick child will have hard time breathing. The child should not be distracted by big crowd. Find a quiet place to count the breathing rate.
- b) Don't start the timer or begin counting until you are focused on the child. You must wait until the child is calm before starting the count.
- c) If the child moves too much or cries during the counting, you must reset the timer and start the count again.
- d) The child may be sleeping or breast feeding during the count.

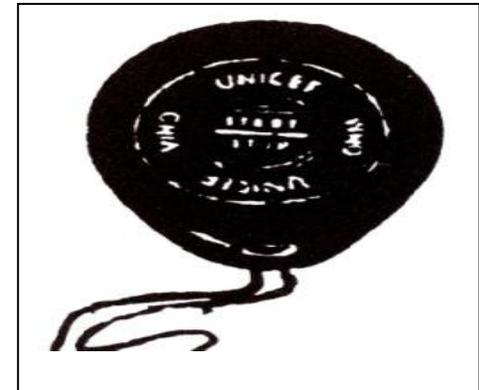
Counting number of time the child breaths per minute



## USING THE ARI TIMER:

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1. The child should not be crying. He/she should be calm
2. Observe the child's bare chest (Never count the breathing rate with the shirt covering the chest.
3. Press the center circle to start the timer
4. The timer makes a "beep" to tell you that it has started. If the gCHV listens carefully a ticking noise will be heard. This means the timer is working.
5. One breath count equals one in and one breath out  
(DO NOT *count the ticking sound but the breathing in and out*)
6. After half a minute the timer will make a "beep" sound. Then it continues ticking to the end of the minute when it makes a "beep-beep" sound. The timer stops by itself and is ready to be used again.



\* Do **NOT** stop the timer at the end of the minute it will stop by itself.

## 7. 0 DANGER SIGNS OF PNEUMONIA THAT MUST BE REFERRED TO THE CLINIC

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### Conditions for referral:

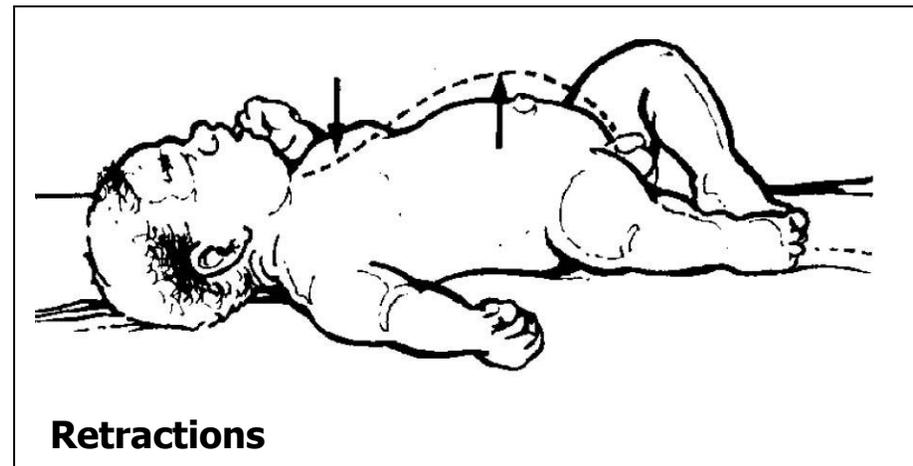
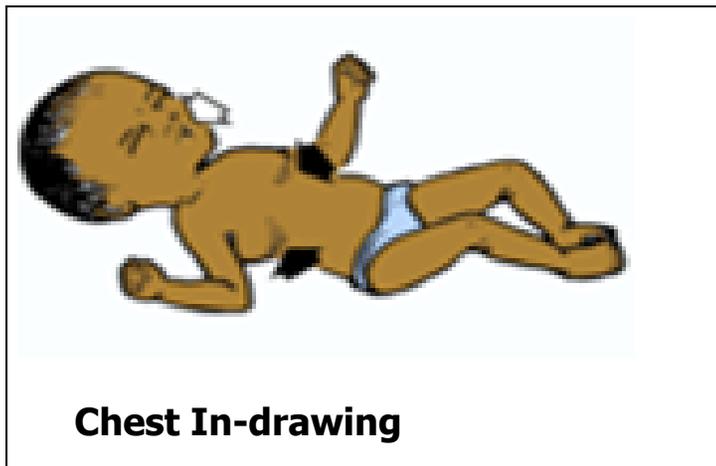
- Chest in-drawing is a sign that the child's condition is very serious. This child must be referred to a clinic or hospital **quick-quick**.

### 7.1 DANGER SIGNS FOR BABIES UNDER 2 MONTHS OLD:

#### 1. Fast breathing (respiration rate 60 or more) :

All children less than 2 months are to be immediately referred to the nearest health facility.

2. **Chest in- drawing:** Chest in-drawing is when the child breathes in and the lower chest goes deep in. While looking for chest in drawing, the child should be quiet and not breast feeding. If severe chest in drawing is observed continuously without a break, it is sign of possible infection.



**Session 7: Danger Signs for babies under 2 months. Refer quick quick**



**3. Not sucking or eating well**

*'Not feeding well' means the child is not sucking or eating less than the usual amount of food they ate before.* If the baby who was previously sucking well or eating well stops eating or is sucking poorly, it shows a very serious condition.

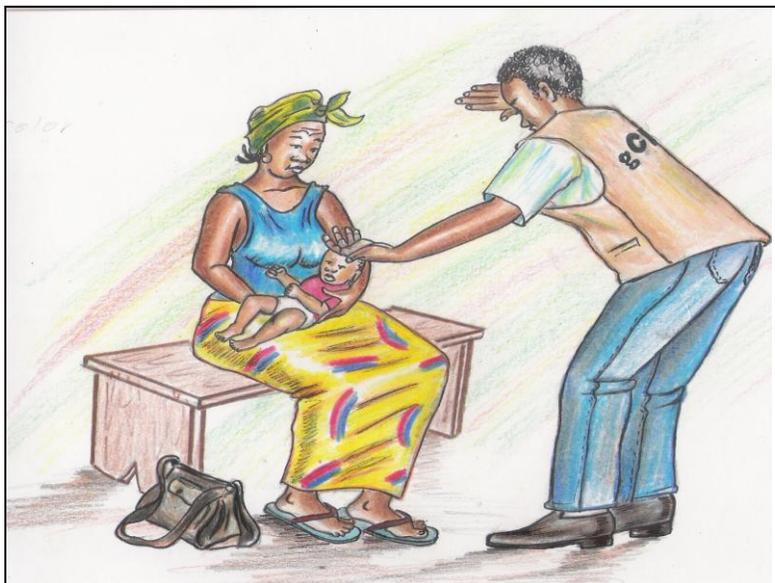


**4. Lethargic: Sleeping plenty and difficult to wake**

***up means the infant is lethargic, sleepy:***

Normally a child moves their arms or legs more than 10 times in a minute. If the movement is less than 10 and the infant does not pay attention to the surrounding, it means that the child is lethargic.

**Danger Signs for babies under 2 months. Refer quick quick**



**5. Hot Body (Fever): All children less than 2 months with fever must be referred quick quick to the clinic.**

When checking for fever, the gCHV should use the back of their hand to feel the forehead and feet of the child while the back of the other hand is on their forehead. This makes it easier to see if the body of the child is abnormally hot.

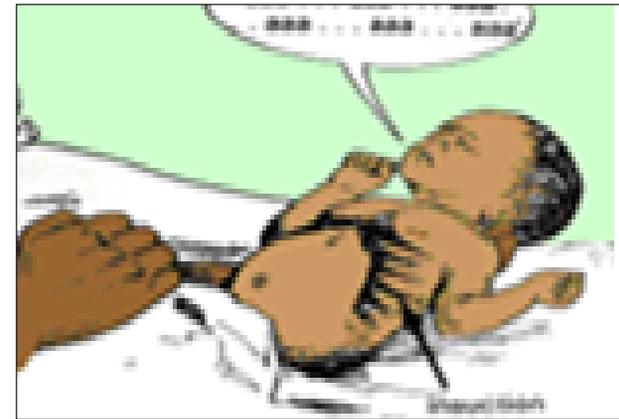


**6. Cold body (Hypothermia):** Sometimes small babies can get “cold body” instead of fever. This is very serious, the baby needs to be wrapped in warm cloth, kept warm and **referred quick, quick**. When checking for cold body (*hypothermia*) the back of the hand should be used to feel the stomach and feet of the child while the back of the other hand is checking the temperature of the gCHV’s forehead. This comparison can tell if the body of the child is very cold.

## Session 7: **Danger Signs** for babies that need **referral quick, quick** continued..

### 7. Grunting

Grunting is a strange sound like aan, aan.-heard when an infant breathes out (at the end of expiration).



### 7.2 CHILDREN 2 MONTHS TO 5 YEARS:

**DANGER SIGNS** of pneumonia that need **quick quick referral** to the nearest clinic or hospital

1. Breathing rate over 60 per minute
2. Fast breathing with Chest in - drawing or other signs of breathing difficulty:

- Grunting
- Wheezing
- Very shallow breathing (not deep breathing)



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**3. Sleeping plenty or difficult to wakeup:**



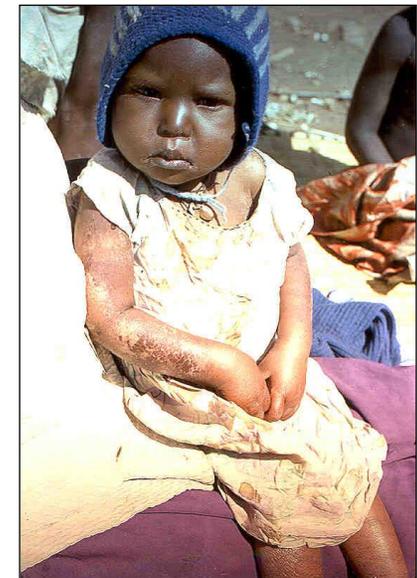
**4. Malnutrition:**  
"Dry" Child: Marasmus



**5. Unable to drink or breast feed**



**"Moon face Child":**  
Kwashiorkor



**6. Any child who has been sick for more than 15 days needs to be referred to facility quick, quick**

## **8.0 LESSON 8: ASSESS THE CHILD WITH COUGH AND COLD: ARI**

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### **8.1 ASSESS THE CHILD WITH COUGH AND COLD: ARI**

- 1) Check for danger signs
- 2) Ask
- 3) Look and Feel
- 4) Classify the child condition ARI
- 5) Treat the child
- 6) Counsel the mother or caregiver

### **8.2 USE CLASSIFICATION CARD AND LEDGER TO ASSESS THE CHILD**

**Immediately check for the DANGER SIGNS. REFER quick quick any child with DANGER SIGNS!**

Hint: Follow the gCHV Consultation Ledger guide to assess the child and record accurately the condition of the child in the ledger.

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## 1. Ask

- What is the name of the child
- What is the age of the child?
- What is the problem with the child?
- How long has the child been sick?
- Does the child have hot body?
- Does the child have running stomach?
- Does the child have cough? For how long?
- Is the child breathing well?
- Is the child eating / sucking tay tay well?
- Is the child vomiting?
- Is the child abnormally sleepy or difficult to wake?
- Have you given any medicine to the child? Where did you get it from? Country medicine?

2. **Look:** Remove upper clothes and look for chest in drawing.

1. **Listen:** For grunting

2. **Feel:** For hot body / fever and low body temperature

3. **Count:** the breathing rate.

## 9.0 MANAGEMENT OF ARI (ACUTE RESPIRATORY INFECTION)

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### 9.1 Two types of Breathing problems / ARI:

- A. Cough and cold
- B. Pneumonia

#### MANAGING THE CHILD WITH COUGH AND COLD:

*(A child with cough and cold that has a normal breathing rate and no danger signs)*

#### A. After assessment of cough and cold:

- If child has a fever, Do RDT to assess for malaria
- Demonstrate how to give the first dose of paracetamol to control fever. (See dose chart below).
- Use classification card to show Danger Signs of Cough and cold to mother.
- Advise mother to return to the gCHV if the child's condition does not improve.

#### B. Counsel the mother or care giver on how to care for the sick child at home and to prevent the child from getting pneumonia:

- Give the child more to drink (offer the child tay tay or water/ juice (if over 6 months) many times in the day and night)

- Give only breast milk up to 6 months and increase the number of times and length of time the child is offered the breast
- Give Nutritious baby (weaning) food after 6 months. (eg. soft rice, plantain, pumpkin, banana with ground pea, ground bene seed, small red oil, soft fish (no bones), soft greens.
- Increase the number of times a child eats during the day (a child should eat at least 4 times in one day)
- Fully immunize (certificate) your child. Take under 1 children to the clinic for vaccination, Vaccinate your over 1 year old children during vaccination campaign.
- Stay away from burning brush. Do not breathe in smoke and dust this can increase fresh cold becoming pneumonia
- Wash hands often with soap or ash to prevent spread of germ. Use cloth and cover mouth when sneezing or coughing
- Keep baby warm (not too hot)
- Keep the nose clean (wash hands after cleaning child's nose)
- For children over 12 months: Make warm drink with lemon juice and honey: Children under 12 months should NOT eat honey.
- Give paracetamol for hot body, according to age (see dose chart below); gCHV must demonstrate to care giver how to melt tablets with breast milk or clean water, 3 times a day.
  - ❖ Always LOOK for **DANGER SIGNS** when a child has cough and cold (use classification to instruct mother)

- mother/caregiver should watch for chest in-drawing, difficult and fast breathing
- ❖ Advise mother to return to the gCHV or go to the clinic immediately if the child is NOT improving

**C. gCHV should follow up on the condition of the child within 3 days after sending child home**

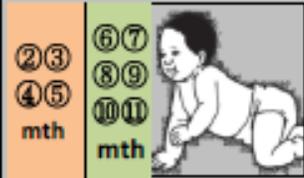
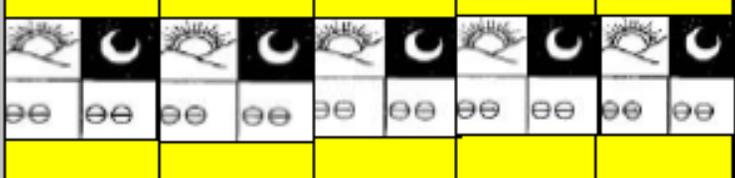
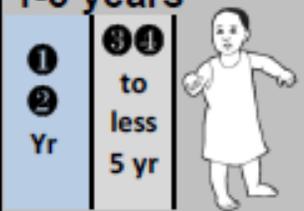
### **9.3 MANAGING A CHILD WITH PNEUMONIA**

**Early** diagnosis of **pneumonia** and treatment with antibiotics can prevent MANY deaths of children caused by ARI.

**B.1. Pneumonia: Children 2 Months and Younger** (Fast breathing over 60):

- a) If infant feels very hot the mother should sponge bath the child with cool water.
- b) If the infant has hot body the gCHV may give Paracetamol (100 mg) ½ tablet to the infant. (See chart below).
- c) Infants with **DANGER SIGNS** must go to the clinic / *health facility* **quick, quick!**
- d) **All sick babies under 2 months must be referred** to the clinic/*health facility* **quick, quick!**  
Eg. *All babies 2 months and younger with suspected pneumonia **MUST** go to clinic health facility **immediately**.* This is a medical emergency!
- e) If the child infant has a red naval/ pus/ or skin sore (pustules), **refer** the infant **quick, quick** to the health facility.

**B.2. Pneumonia: Children 2 Months to 5 Years** (Cough with fast breathing rate with no danger signs):CO-TRIMOXAZOLE: Give paediatric Co-trimoxazole as shown in the table below:

Age of child		Treatment with Co-trimoxazole Pediatric Dose 20/100mg tablet 2 times a day x 5 days				
		Day 1	Day 2	Day 3	Day 4	Day 5
<b>2-11 months</b> 						
<b>1-5 years</b> 						

**2-11 months:**  
 Give 2 tablets in the morning and 2 tablets in the evening every day for 5 days.  
 Total tablets given = 20 tablets

**1-5 years:**  
 Give 3 tablets in the morning and 3 tablets in the evening every day for 5 days.  
 Total tablets given = 30 tablets

These tablets must be given every morning and evening for 5 days until all the tablets are finished.

**Counsel the mother or caregiver:** These tablets must be given every morning and evening for 5 days until all the tablets are finished. If the child is getting well before the 5 days treatment, the mother **must** still continue to give the tablets as instructed for the full 5 days to ensure that the child will NOT keep some of the germs in the chest that will cause the sickness to come back. **Always as the caregiver to repeat back the instructions and counsel given by the gCHV to ensure she / he understands well what she is to do for the child.**

- PARACETAMOL:** If the child's has hot body (fever), give Paracetamol according to age to reduce the fever, tablets should be taken three times a day (once in the morning, once in the afternoon and once before bed) until the fever goes down.

Treatment with Children's Paracetamol 100mg tablets										
0 - ① mth (less than 2 mths)		½ tablet	REFER THE CHILD TO THE CLINIC QUICK QUICK AFTER THE FIRST DOSE							
Age Group	Dosage	Day 1			Day 2			Day 3		
<b>2 months - 2 years</b>  ②③ ⑥⑦ ① ④⑤ ⑧⑨ ② mth mth Yr	1 tablet 									
<b>3-5 Years</b>  ③④ to less 5 yr	2 tablet 									

### **3. COUNSEL THE MOTHER OR CAREGIVER:**

- 1) To return after 1 day to gCHV with baby/child for check up or the gCHV should go to visit the baby/child at the caregiver'
- 2) To return immediately to the gCHV or a health facility if the child is not getting well or gets worse
- 3) To return if danger signs occur (even if only one danger sign occurs)
- 4) Make sure that the child takes the correct dose of the tablets daily for the entire five days
- 5) Ask mother to repeat the instructions in taking medication and knows how to crush pills
- 6) Give the child more fluid
- 7) Exclusive breast feeding until 6 months/increase breast feeding
- 8) Feed nutritious weaning foods
- 9) Increase food intake
- 10) Instruct caregivers to make sure and wash their hands before feeding or serving tablets
- 11) The child should be encouraged to wash his/her hands frequently.
- 12) If the child is vomiting he/she should return to gCHV for referral
- 13) Make sure child is immunized
- 14) Avoid smoke, dust and dampness can increase change of cold becoming pneumonia
- 15) Keep the child warm if the baby is cold but do not over wrap

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- 16) Keep the nose clean
- 17) For children over 12 months: Soothe the throat and relieve cough: lemon juice or honey can be used: 1 tablespoon three times a day. Infants under 12 months should NOT get honey.
- 18) If there is fever give paracetamol, according to age; gCHV must show caregiver how to crush the pills.
- 19) Sponge bathe child if very hot
- 20) Watch for Danger signs that need referral: chest in drawing and grunting
- 21) Advise mother to return immediately when the child is not improving or getting worse To control germs from spreading all family members should wash their hands with soap or ash and cover mouths when sneezing or coughing







# REFERRAL & FEEDBACK FORM

(from community (gCHV) to the Health Facility)

gCHV Patient Referral Card		
Date: _____	Time: _____	
Name of Patient: _____		
Age: _____	Sex: _____	
Community of Patient: _____		
Referred to: _____ (clinic/hospital)		
<input type="checkbox"/> Running stomach	<input type="checkbox"/> Malnutrition	
<input type="checkbox"/> Fever	<input type="checkbox"/> RDT pos.	<input type="checkbox"/> Family Planning
<input type="checkbox"/> Cough	<input type="checkbox"/> resp. rate	<input type="checkbox"/> Other
Other symptoms & Treatment Given: _____		
_____		
Name of gCHV: _____		

gCHV Patient Referral Card		
Date: _____	Time: _____	
Name of Patient: _____		
Age: _____	Sex: _____	
Community of Patient: _____		
Referred to: _____ (clinic/hospital)		
<input type="checkbox"/> Running stomach	<input type="checkbox"/> Malnutrition	
<input type="checkbox"/> Fever	<input type="checkbox"/> RDT pos.	<input type="checkbox"/> Family Planning
<input type="checkbox"/> Cough	<input type="checkbox"/> resp. rate	<input type="checkbox"/> Other
Other symptoms & Treatment Given: _____		
_____		
Name of gCHV: _____		

FEEDBACK from Health Facility to gCHV	
Name of Patient: _____	
Age: _____	Sex: _____
Date of arrival at HF: _____	
Date sent home: _____	
Treatment Given: _____	
_____	
<b>Patient Instruction:</b> _____	
_____	
_____	
Name of gCHV: _____	
<b>gCHV Instruction:</b> _____	
_____	
_____	
_____	
Name, title, Health Facility, Signature	

FEEDBACK from Health Facility to gCHV	
Name of Patient: _____	
Age: _____	Sex: _____
Date of arrival at HF: _____	
Date sent home: _____	
Treatment Given: _____	
_____	
<b>Patient Instruction:</b> _____	
_____	
_____	
Name of gCHV: _____	
<b>gCHV Instruction:</b> _____	
_____	
_____	
_____	
Name, title, Health Facility, Signature	

## Community Health Services Ministry of Health

County: \_\_\_\_\_ Date: \_\_\_\_\_

District: \_\_\_\_\_

Clinic: \_\_\_\_\_ Organization: Equip Liberia

Number of gCHVs: \_\_\_\_\_

Reporting Period: \_\_\_\_\_

### Monthly Drugs and Supply Requisition for gCHVs

	Name of Item	Balance Beginning of the month	Quantity Received	Quantity used	Balance end of the month	Amount Requested	Remark
1	ORS						
2	Zinc 20 mg						
3	RDT						
4	Glove						
5	PCM 100 mg						
6	ACT 25mg + 67.5						
6	ACT 50 mg + 135						
7	Cotri 20/100mg						

Signature: \_\_\_\_\_

Name

Signature

Position: \_\_\_\_\_

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