DISTANCE LEARNING COURSE

Module 3

Cough or difficult breathing
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Acknowledgements

The WHO Department of Maternal, Newborn, Child and Adolescent Health initiated the development of these distance learning materials on the Integrated Management of Childhood illness (IMCI), in an effort to increase access to essential health services and meet demands of countries for materials to train primary health workers in IMCI at scale. These materials are intended to serve as an additional tool to increase coverage of trained health workers in countries to support the provision of basic health services for children. The technical content of the modules are based on new WHO guidelines in the areas of pneumonia, diarrhoea, febrile conditions, HIV/AIDS, malnutrition, newborn sections, infant feeding, immunizations, as well as care for development.

Lulu Muhe of the WHO Department of Maternal, Newborn, Child and Adolescent Health (MCA) led the development of the materials with contributions to the content from WHO staff: Rajiv Bahl, Wilson Were, Samira Aboubaker, Mike Zangenberg, José Martines, Olivier Fontaine, Shamim Qazi, Nigel Rollins, Cathy Wolfheim, Bernadette Daelmans, Elizabeth Mason, Sandy Gove, from WHO/Geneva as well as Teshome Desta, Sirak Hailu, Iriya Nemes and Theopista John from the African Region of WHO.

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We acknowledge the help from Ms Sue Hobbs in the design of the materials.

Financial and other support to finish this work was obtained from both the MCA and HIV departments of WHO.
3.1 MODULE OVERVIEW

A cough or difficult breathing is a common reason why a mother will bring a child to your clinic. The problem may be a mild cold, or it may be a serious problem like pneumonia. How can you tell the difference? How should you treat the child? How should you counsel the mother? The choices may seem confusing, but this self-learning module will help you make the correct decisions.

For ALL sick children – ask the caregiver about the child’s problems, check for general danger signs, and then ASK:

**DOES THE CHILD HAVE A COUGH OR DIFFICULT BREATHING?**

- **NO**
- **YES**

**ASSESS & CLASSIFY** the child using the colour-coded classification charts for cough or difficult breathing.

**CONTINUE ASSESSMENT:** assess for main symptoms (next is diarrhoea), check for malnutrition & anaemia, check immunization status, HIV status, and other problems

**MODULE LEARNING OBJECTIVES**

*After you study this module, you will be able to:*

- ✔ Assess cough or difficult breathing using the IMCI Chart Booklet
- ✔ Recognize main clinical signs of cough or difficult breathing
- ✔ Classify cough or difficult breathing
- ✔ Treat a child with cough or difficult breathing according to IMCI guidelines
- ✔ Counsel caregiver on home care
- ✔ Give appropriate follow-up care for a child with cough or difficult breathing

**YOUR RECORDING FORM**

Look at your IMCI recording form for the sick child. This section deals with this module:

**DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?**

- ✔ For how long? ____ Days
- ✔ Count the breaths in one minute
  - ____ breaths per minute. Fast breathing?
  - Look for chest indrawing
  - Look and listen for stridor
  - Look and listen for wheezing

**Yes ___  No ___**
MODULE ORGANIZATION

This module follows the major steps of the IMCI process:

✔ Assess cough or difficult breathing
✔ Classify cough or difficult breathing
✔ Treatment for cough or difficult breathing
✔ Counsel caregiver on home care (oral antibiotics, safe remedies)
✔ Follow-up care for cough or difficult breathing

BEFORE YOU BEGIN

What do you know now about managing cough or difficult breathing?

Before you begin studying this module, quickly practice your knowledge with these multiple-choice questions. Circle the best answer for each question.

1. What clinical signs can help you identify if a child has pneumonia?
   a. Wet cough
   b. Fast breathing
   c. Chest indrawing

2. If a child has pneumonia, how will you treat?
   a. Oral antibiotics
   b. Honey
   c. Paracetamol

3. Why is it important to correctly identify and manage pneumonia?
   a. Pneumonia is very common, but it is not so serious for children
   b. Pneumonia is a major killer of children under 5 around the world, and it requires early management
   c. Children with pneumonia need to be isolated from all other family members

4. Chest indrawing is when:
   a. The lower ribs move in when the child breathes out
   b. The lower ribs move in when the child breathes in
   c. The lower ribs are always pushed in, no matter if the child is breathing in or out

5. Children who have a cough, but do not show signs of pneumonia, should immediately receive an antibiotic:
   a. TRUE
   b. FALSE

6. The following is a good checking question: “how will you prepare a safe home remedy for cough?”
   a. TRUE
   b. FALSE

After you finish the module, you will answer the same questions. This will demonstrate to you what you have learned during the module!
3.2 INTRODUCTION TO COUGH OR DIFFICULT BREATHING

Consider a typical case that you might see in your practice. Imagine the situation. This will help you start thinking about the problem of a child with a cough or difficult breathing.

OPENING CASE STUDY – JACOB

Amira lives in a village two hours walk away from the regional health centre. She arrives at your clinic and carefully takes Jacob off her back. She presents him to you with a look of panic on her face. She tells you that Jacob is not feeling well and she is worried about him.

Amira watches her children carefully. She has been noticing for the last 3 days that Jacob does not seem to be himself. He is 6 months of age and has been started on some solids, but is now refusing to take these solids. He is also not breast feeding as much as he was.

Amira is quite worried and scared to tell her husband. She decides to walk the two hours to the local health clinic carrying Jacob on her back. Amira had three other children. However, one died at three weeks of age from an illness she is not sure about.

Her husband is often away. When he is home he sometimes is violent towards the children, especially if they are crying and seem to be unwell. Amira thinks he may be frightened that another child will die.

She is unsure about whether she should attend the clinic. She decides that this is the best thing. She just hopes that Jacob gets well and her husband does not find out.

Greet Amira at the clinic

First, you praise Amira for bringing Jacob to the clinic. You tell her that you know it is a long walk and she must be tired. Compliment her on the wisdom of her decision and her effort in bringing Jacob to the clinic. Reassure her that she did the right thing to help her child.

This conversation with Amira will establish good communications between you and the mother. That is important, because she will have a lot of responsibility for Jacob’s care. You want her to trust you and understand your directions.

You have learned from Amira that the child’s name is Jacob, and he is 6 months old. She is concerned because he is not feeding well.

When you ask more about this, Amira tells you that she has noticed that Jacob starts to breastfeed and then pulls off the breast and seems to pant for air before going back for a further suckle. She has noticed that his stomach seems to be going in and out quite quickly.

This is her initial visit to the clinic for this problem. Jacob weighs 5kg and his temperature is 37 degrees.
Next, check Jacob for general danger signs

Amira has told you that Jacob is not eating solids well, and he is taking the breast less than he used to. You ask her if he is still able to drink or breastfeed. She says yes, he will take the breast, but he does not drink well. He does not vomit. He has had no convulsions.

You look at Jacob's condition. He appears very tired, but lifts his hand to Amira. His eyes look up to Amira and follow you when you snap your fingers.

Here is how you would complete Jacob's recording form thus far:

**MANAGEMENT OF THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS**

<table>
<thead>
<tr>
<th>Name: Jacob</th>
<th>Age: 6 mo</th>
<th>Weight (kg): 5 kg</th>
<th>Temperature (°C): 37 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask: Not feeding well (not taking other foods, not taking breast well), rapid breathing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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CHECK FOR GENERAL DANGER SIGNS

- NOT ABLE TO DRINK OR BREASTFEED
- VOMITS EVERYTHING
- CONVULSIONS

CLASSIFY

- LETHARGIC OR UNCONSCIOUS
- CONVULSING NOW

General danger sign present? Yes ___ No ___
Remember to use Danger sign when selecting classifications

Jacob shows no general danger signs. You will now assess for cough or difficult breathing.
3.3 ASSESS A CHILD FOR COUGH OR DIFFICULT BREATHING

WHY ARE WE CONCERNED ABOUT COUGH OR DIFFICULT BREATHING?

Jacob reminds us that many problems can occur at any site in the respiratory system. Here is a simple illustration to remind you of the different parts of the respiratory system.

You will go step-by-step through the process of assessing, classifying, and treating respiratory infections.

You will use the story of Jacob and his mother Amira as an example.

WHAT CAUSES COUGH OR DIFFICULT BREATHING?

Many children who come to your clinic with a cough or difficult breathing may have mild respiratory infections. They may have a cold or bronchitis. These children are not seriously ill and do not need antibiotics, they can be treated at home.

However, some children with cough or difficult breathing may have pneumonia or another serious respiratory infection. You have learned that pneumonia is one of the greatest causes of child mortality in the world.

Children can die from bacterial pneumonia because they can’t get enough oxygen (hypoxia) or they get a generalized infection (sepsis). Most pneumonia in developing countries is caused by bacteria and can be treated with antibiotics.

HOW CAN YOU IDENTIFY PNEUMONIA?

Pneumonia is a serious respiratory infection. You can identify children with pneumonia by checking for two clinical signs. When children develop pneumonia, their lungs become stiff. These two signs help show how stiff the lungs have become.

1. FAST BREATHING: is one of the body’s responses to stuff lungs and hypoxia.

2. CHEST INDRAWING: develops when the lungs become even stiffer as the pneumonia becomes more severe.

HOW WILL YOU ASSESS A CHILD FOR COUGH OR DIFFICULT BREATHING?

This assessment will examine how quickly the child is breathing, the noises he is making as he breathes, and how much difficult he appears to have while breathing.
ASK: DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?

Difficult breathing is any unusual pattern of breathing. Caregivers describe this in different ways. They may say that their child’s breathing is “fast” or “noisy” or “interrupted.” If a mother answers no, look to see if you think the child has cough or difficult breathing.

If the child does not have a cough or difficult breathing, move to the next symptom: diarrhoea. You do not need to assess the child further for cough or difficult breathing.

IF YES: Open to your ASSESS chart for cough or difficult breathing. You will see the following instructions. You will learn now about the signs discussed in this ASSESS chart.

### IF YES, ASK:
- For how long?

### LOOK, LISTEN, FEEL:
- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor.
- Look and listen for wheezing.

If wheezing and either fast breathing or chest indrawing: Give a trial of rapid acting inhaled bronchodilator for up to three times 15-20 minutes apart. Count the breaths and look for chest indrawing again, and then classify.

### CHILD MUST BE CALM

<table>
<thead>
<tr>
<th>If the child is:</th>
<th>Fast breathing is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 months up to 12 months</td>
<td>50 breaths per minute or more</td>
</tr>
<tr>
<td>12 months up to 5 years</td>
<td>40 breaths per minute or more</td>
</tr>
</tbody>
</table>

ASK: FOR HOW LONG?

A cough or difficult breathing that lasts for more than 14 days may indicate tuberculosis, asthma, whooping cough, or some other problem.

LOOK: DOES THE CHILD HAVE FAST BREATHING?

As you have learned, fast breathing is one sign of pneumonia in a child.

How do you determine if a child is breathing faster than he or she normally should be? You count the number of breaths the child takes per minute to determine if fast breathing is present. To count the breaths per minute, use a watch with a second hand or a digital watch. Look for the breathing movement anywhere on the child’s chest or abdomen.

The number of breaths for ‘fast breathing’ depends on the child’s age.
Younger children normally have higher rates of breathing than older children.
It is very important that the child is calm and still. If the child is moving or crying, you will not be able to get an accurate count of breaths. Ask the mother to help keep her child calm.

**FAST BREATHING**

2 months up to 12 months = 50 or more breaths per minute

**DVD EXERCISE – FAST BREATHING**

Watch “Count respiratory rate” (disc 1) to practice identifying fast breathing. It is very useful to practice counting with a video. The video will review answers with you.

What did you find?

CHILD 1: __________ breaths/minute. Is this fast? □ YES □ NO
CHILD 2: __________ breaths/minute. Is this fast? □ YES □ NO

**SELF-ASSESSMENT EXERCISE A**

Remember that all self-assessment exercise answers at in a key at the end of this module.

Let us practice what we have learned about cough or difficult breathing thus far.

1. What are two clinical signs that help you identify children with pneumonia?
2. Do the following children have fast breathing? Tick your answers.

| a. 3 years, 36 breaths per minute | □ YES □ NO |
| b. 12 months, 50 breaths per minute | □ YES □ NO |
| c. 6 months, 45 breaths per minute | □ YES □ NO |
| d. 3 months, 57 breaths per minute | □ YES □ NO |

3. Julie arrives at your clinic with her mother. You begin by gathering important information about the child. You check Julie for danger signs, and she has none. What do you do next?

| a. ASK: __________________________ | __________________________ |
| b. LOOK: __________________________ | __________________________ |

4. When you ask Julie’s mother, she says Julie has no cough or difficult breathing. You watch Julie, and she seems to be breathing regularly. What do you do next?

| __________________________ | __________________________ |
LOOK: FOR CHEST INDRAWING

Chest indrawing occurs when the child needs to make a greater effort than normal to breathe in. You will look for chest indrawing when the child breathes IN.

In normal breathing, the whole chest wall (upper and lower) and the abdomen move OUT when the child breathes IN. The child has chest indrawing if the lower chest wall (lower ribs) goes IN when the child breathes IN. Review the photo below.

For chest indrawing to be present, it must be visible and present all the time you are observing the child. If you still do not see the lower chest wall go IN when the child breathes IN, the child does not have chest indrawing.

Here are some helpful tips to look for chest indrawing:

✔ Ask the caregiver to lift the child’s shirt, if you did not when you counted breaths.
✔ If the child’s body is bent at the waist, it is hard to see the lower chest wall move. Ask the caregiver to change the child’s position so he is lying flat in her lap.

REMEMBER! When do you look for chest indrawing? When the child breathes IN
NORMAL: when child breathes IN, chest wall moves OUT
CHEST INDRAWING: when child breathes IN, chest wall moves IN
DVD EXERCISE – CHEST INDRAWING

Watch “Assessing indrawing” (disc 1). It is very useful to practise with a video. Record your answers as you watch. It will review the answers at the end. Do these children have chest indrawing?

<table>
<thead>
<tr>
<th>CHILD 1</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD 2</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 3</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 4</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 5</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

LOOK AND LISTEN FOR STRIDOR

Stridor is a harsh noise made when a child breathes IN. It occurs when the larynx, trachea, or epiglottis is swollen. These conditions are often called croup. This swelling interferes with air entering the lungs. If the swelling blocks the child’s airway, it can be life threatening.

To look and listen for stridor, look to see when the child breathes IN. Then listen for stridor. Put your ear near the child’s mouth because stridor can be difficult to hear. Sometimes you will hear a wet noise if the child’s nose is blocked. Clear the nose, and listen again.

Be sure to look and listen for stridor when the child is calm. A child who is not very ill may have stridor only when he is crying or upset. However, a child who is calm and also has stridor has a dangerous situation. You may only hear a wheezing noise when the child breathes OUT – this is not stridor.

DVD EXERCISE – STRIDOR

Watch “Assessing stridor” (disc 1) to practise identifying stridor. It is very useful to practice with a video. The video will review answers with you. Do you hear stridor in these children?

<table>
<thead>
<tr>
<th>CHILD 1</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD 2</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 3</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 4</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>CHILD 5</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

LOOK AND LISTEN FOR WHEEZING

Wheeze is a high-pitched whistling or musical sound heard at the end of the breathing OUT. The child’s small air passages narrow to cause wheezing.

To hear wheezing, put your ear near to the child’s mouth when the child is calm. Look at the child’s breathing while you listen to check that the sound mainly occurs when the child breathes out.

If the child has wheezing and either fast breathing or chest indrawing: you need to perform an additional assessment. Give a trial of rapid acting inhaled bronchodilator for up to three times 15–20 minutes apart. Count the breaths and look for chest indrawing again. Then classify the problem.
Now you will return to Jacob’s case. How will you assess him for cough or difficult breathing?

You have already assessed Jacob for general danger signs, and found that he did not have any.

Next, you will assess Jacob for cough or difficult breathing. You ask Amira if Jacob has a cough or difficult breathing. She is confused when you say “difficult breathing,” so you explain it as breathing that is fast, noisy, or interrupted.

Amira says yes, she thinks Jacob has been breathing fast. He also moves away from the breast to take breaths. She says he did not do this in the past.

You ask Amira how long this issue has been present. She says 1 week. You remember that a cough or difficult breathing that lasts for more than 14 days may indicate tuberculosis, asthma, whooping cough, or some other problem.

Based on Amira’s answers, you will need to assess Jacob for a cough or difficult breathing. You think there may be a respiratory problem.

You hold up Jacob’s shirt and count his breaths in one minute. When he is calm, he is breathing 70 breaths per minute. He coughs frequently.

Then you look at his lower chest wall for indrawing. When Jacob breathes in, his lower chest wall and abdomen move out. You listen for stridor when Jacob breathes in, and you do not hear any harsh noise. You also do not hear wheezing when he breathes out.

Does Jacob have fast breathing?

Does he have indrawing or stridor?

Here is how you would complete Jacob’s recording form for cough or difficult breathing:

<table>
<thead>
<tr>
<th>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• For how long? ___ Days</td>
</tr>
<tr>
<td>• Count the breaths in one minute 70 breaths per minute</td>
</tr>
<tr>
<td>• Look for chest indrawing No</td>
</tr>
<tr>
<td>• Look and listen for stridor No</td>
</tr>
<tr>
<td>• Look and listen for wheezing No</td>
</tr>
</tbody>
</table>

You will now learn how to classify the signs you checked Jacob for.
3.4 **CLASSIFY COUGH OR DIFFICULT BREATHING**

Now you will learn how to classify using the signs you assessed for. There are three possible classifications for a child with cough or difficult breathing:

1. **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**
2. **PNEUMONIA**
3. **COUGH OR COLD**

**Open your chart booklet: what does the classification table look like?**

<table>
<thead>
<tr>
<th></th>
<th>Pink: SEVERE PNEUMONIA OR VERY SEVERE DISEASE</th>
<th>Yellow: PNEUMONIA</th>
<th>Green: COUGH OR COLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Any general danger sign or Stridor in calm child.</td>
<td>Give first dose of an appropriate antibiotic. Refer URGENTLY to hospital**</td>
<td>Give oral Amoxicillin for 5 days***</td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
</tr>
<tr>
<td>• Chest indrawing or Fast breathing.</td>
<td>If chest indrawing in HIV exposed or infected child, give first dose of amoxicillin and refer to hospital.</td>
<td>If chest indrawing or Fast breathing.</td>
<td>If coughing for more than 2 weeks or if having recurrent wheezing, refer for further assessment or consider TB or asthma.</td>
</tr>
<tr>
<td>• No signs of pneumonia or very severe disease.</td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
<td>If coughing for more than 2 weeks or if having recurrent wheezing, refer for assessment for TB or asthma.</td>
</tr>
<tr>
<td></td>
<td>Give first dose of an appropriate antibiotic. Refer URGENTLY to hospital**</td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
<td>If coughing for more than 2 weeks or if having recurrent wheezing, refer for assessment for TB or asthma.</td>
</tr>
<tr>
<td></td>
<td>Give oral Amoxicillin for 5 days***</td>
<td>If chest indrawing or Fast breathing.</td>
<td>Advise mother when to return immediately.</td>
</tr>
<tr>
<td></td>
<td>If chest indrawing or Fast breathing.</td>
<td>If chest indrawing or Fast breathing.</td>
<td>Follow-up in 5 days if not improving.</td>
</tr>
<tr>
<td></td>
<td>Give first dose of an appropriate antibiotic. Refer URGENTLY to hospital**</td>
<td>If chest indrawing or Fast breathing.</td>
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<tr>
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<td>If chest indrawing or Fast breathing.</td>
<td>Follow-up in 5 days if not improving.</td>
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</tr>
</tbody>
</table>

* If pulse oximeter is available, determine oxygen saturation and refer if < 90%.

** If referral is not possible, manage the child as described in *Integrated Management of Childhood Illness*, Treat the Child, Annex: Where Referral is Not Possible, and WHO guidelines for inpatient care.

*** Oral Amoxicillin for 3 days could be used in patients with fast breathing but no chest indrawing in low HIV settings.

**** In settings where inhaled bronchodilator is not available, oral salbutamol may be tried.

**REMEMBER!**

Classifications are colour-coded, and identify treatments:

- **RED** = refer urgently
- **YELLOW** = treat in clinic
- **GREEN** = home treatment
**VERY SEVERE PNEUMONIA OR VERY SEVERE DISEASE (RED)**

A child with cough or difficult breathing and any **general danger sign** or **stridor** (in a calm child) is classified as having SEVERE PNEUMONIA OR VERY SEVERE DISEASE. The child may have another serious acute lower respiratory infection such as bronchiolitis, pertussis, or a wheezing problem.

**What actions will you take?**

A child classified as having SEVERE PNEUMONIA OR VERY SEVERE DISEASE is **seriously ill**. He or she needs urgent referral to a hospital for treatments such as oxygen, a bronchodilator, or injectable antibiotics. Before the child leaves, give the first dose of an appropriate antibiotic. The antibiotic helps prevent severe pneumonia from becoming worse. It also helps treat other serious bacterial infections such as sepsis or meningitis.

**PNEUMONIA (YELLOW)**

A child with cough or difficult breathing who has **fast breathing** and or **chest indrawing** is classified as having PNEUMONIA. This child should not have a general danger sign, or stridor.

**What actions will you take?**

A child with PNEUMONIA needs treatment with **oral amoxicillin for 5 days**. You will begin this treatment in the clinic, and it will continue at home. Later in this section, you will read about how to identify and give an antibiotic. You will also learn how to teach caregivers to give treatments at home. If the child has wheezing, this will require treatment with an inhaled bronchodilator. If the child is HIV exposed or infected and chest indrawing, she needs give the first dose of amoxicillin and refer to the hospital.

**COUGH OR COLD (GREEN)**

A child with cough or difficult breathing but none of the signs already discussed – general danger signs, chest indrawing, stridor when calm, or fast breathing – is classified as COUGH OR COLD.

**What actions will you take?**

A child with COUGH OR COLD **does not need an antibiotic**. The antibiotic will not relieve the child’s symptoms. It will not prevent the cold from developing into pneumonia. Instead, give the mother advice about good home care, like safe remedies.

A child with a cold normally improves in one to two weeks. However, a child who has a **chronic cough** lasting more than 2 weeks, he/she may have tuberculosis, asthma, whooping cough or another problem. A child with a chronic cough needs to be referred to hospital for further assessment.
How will you classify Jacob?

You observed one sign in Jacob – fast breathing. You counted 70 breaths per minute. For his age, 50 breaths or more is considered fast. Fast breathing is a sign used to classify pneumonia (yellow). He did not show any signs from the SEVERE PNEUMONIA or VERY SEVERE DISEASE (red) classification, like stridor or a general danger sign.

You will write your classification on the recording form:

<table>
<thead>
<tr>
<th>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• For how long? ___ Days</td>
</tr>
<tr>
<td>• Count the breaths in one minute: __ 70 breaths per minute (Fast breathing?) Yes</td>
</tr>
<tr>
<td>• Look for chest indrawing No</td>
</tr>
<tr>
<td>• Look and listen for stridor No</td>
</tr>
<tr>
<td>• Look and listen for wheezing No</td>
</tr>
</tbody>
</table>

What do you do after classifying Jacob’s cough?

In a normal scenario, you will then begin to ASSESS Jacob for the next main symptom, diarrhoea, until you are done with the full assessment.

Then you will review all of the treatments you have identified for his various classifications, and decide on his integrated treatment. You will learn more about giving treatment, counselling Amira, and providing follow-up care in the following sections.

As a practice exercise, consider a second scenario with Jacob:

How would you have classified differently if you had heard a harsh noise while Jacob sat with Amira? Jacob’s first sign, fast breathing, is a sign used to classify PNEUMONIA (yellow classification). The second sign, stridor, is a sign of SEVERE PNEUMONIA or VERY SEVERE DISEASE (red classification).

There are often cases when you will find signs from several classifications. In these situations, you always classify with the most severe classification. So in a scenario where you assess one sign from a yellow classification, and another sign from a red classification, you would use the red classification. This signifies SEVERE illness and requires urgent pre-referral treatment, and then referral.
**SELF-ASSESSMENT EXERCISE B**

Open your Chart Booklet. Review the classification table for cough or difficult breathing.

1. Match the boxes below. Each “signs” box should be matched with one classification.

<table>
<thead>
<tr>
<th>SIGNS</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sal is 9 months old and has a cough. You count 45 breaths per minute. No chest indrawing or stridor.</td>
<td>SEVERE PNEUMONIA or VERY SEVERE DISEASE</td>
</tr>
<tr>
<td>Linus is 3 months old, and you could 65 breaths in one minute. When he breathes in, has had convulsions during current illness.</td>
<td>PNEUMONIA</td>
</tr>
<tr>
<td>Jojo is 3 years old. You count 56 breaths in one minute. No indrawing or stridor.</td>
<td>COUGH OR COLD</td>
</tr>
</tbody>
</table>

2. Are these statements true or false? If false, write the statement as correct.

   a. You should look for chest indrawing when the child breathes OUT.  TRUE   FALSE
   b. Fast breathing in a child 12 months and older is 40 or more a minute.  TRUE   FALSE
   c. Chest indrawing is a sign of pneumonia.  TRUE   FALSE
   d. If a child has a cough but no other signs, they probably have pneumonia.  TRUE   FALSE
   e. A child with chest indrawing will always also have fast breathing.  TRUE   FALSE
   f. Chest indrawing is when the lower ribs move IN when the child breathes IN  TRUE   FALSE
   g. A child 2 up to 12 months has fast breathing if more than 45 breaths a minute.  TRUE   FALSE
   h. A child with chest indrawing has a higher risk of death from pneumonia than a child with fast breathing and no chest indrawing.  TRUE   FALSE
   i. Difficult breathing can also be described as noisy, interrupted, or fast.  TRUE   FALSE
   j. If a child has cough, fast breathing, and vomits everything, he is classified as PNEUMONIA (YELLOW)  TRUE   FALSE
EXAMPLE EXERCISE: CLASSIFYING

Read this case study and see how the health worker classified this child’s illness.

Aziz is 18 months old. He weighs 11.5 kg. His temperature is 37.5 °C. His mother brought him to the clinic because he has a cough. She says he is having trouble breathing. This is his first visit for this illness. The health worker checked Aziz for general danger signs. Aziz is able to drink. He has not been vomiting. He has not had convulsions. He is not lethargic or unconscious. The health worker asked “How long has Aziz had this cough?” His mother said he had been coughing for 6 or 7 days. Aziz sat quietly on his mother’s lap. The health worker counted the number of breaths the child took in a minute. He counted 41 breaths per minute. He thought, “Since Aziz is over 12 months of age, the cut-off for determining fast breathing is 40. He has fast breathing.” The health worker did not see any chest indrawing. He did not hear stridor. Here is how the health worker recorded Aziz’s case information and signs of illness:

MANAGEMENT OF THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS

<table>
<thead>
<tr>
<th>Name: Aziz</th>
<th>Age: 18 mo</th>
<th>Weight (kg): 11.5</th>
<th>Temperature (°C): 37.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Visit? X</td>
<td>Follow-up Visit?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHECK FOR GENERAL DANGER SIGNS
- NOT ABLE TO DRINK OR BREASTFEED
- VOMITS EVERYTHING
- CONVULSIONS
- LETHARGIC OR UNCONSCIOUS
- CONVULSING NOW

DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?
- For how long? ___ Days
- Count the breaths in one minute
- Look for chest indrawing
- Look and listen for stridor
- Look and listen for wheezing

CLASSIFY

<table>
<thead>
<tr>
<th>General danger sign present?</th>
<th>Yes ___ No X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remember to use Danger sign when selecting classifications</td>
<td></td>
</tr>
</tbody>
</table>

To classify Aziz’s illness, the health worker looked at the classification.

1. First, he checked to see if Aziz had any of the signs in the pink row. He thought, “Does Aziz have any general danger signs? No, he does not. Does Aziz have any of the other signs in this row? No, he does not.” Aziz does not have any signs for severe classification.

2. Next, the health worker looked at the yellow row. He thought, “Does Aziz have signs in the yellow row? He has fast breathing.”

3. The health worker classified Aziz as having PNEUMONIA. He wrote PNEUMONIA on the Recording Form.
SELF-ASSESSMENT EXERCISE C

Read the following case study and answer the questions.

Gyatsu is 6 months old and weighs 5.5 kg. His temperature is 38 °C. His mother said he has had cough for 2 days. The health worker checked for general danger signs. The mother said that Gyatsu is able to breastfeed. He has not vomited during this illness. He has not had convulsions. Gyatsu is not lethargic or unconscious.

The health worker said to the mother, “I want to check Gyatsu’s cough. You said he has had cough for 2 days now. I am going to count his breaths. He will need to remain calm while I do this.” The health worker counted 58 breaths per minute. He did not see chest indrawing or hear stridor.

1. Record Gyatsu’s signs on the Recording Form below.

2. To classify Gyatsu’s illness, look at the classification table for cough or difficult breathing in your chart booklet. Look at the top row (is pink in the Chart Booklet).
   a. Does Gyatsu have a general danger sign? □ YES □ NO
   b. Does he have chest indrawing or stridor when calm? □ YES □ NO
   c. Will you classify SEVERE PNEUMONIA OR VERY SEVERE DISEASE? □ YES □ NO

3. If he does not have the severe classification, look at the middle row (yellow on Chart).
   a. Does Gyatsu have fast breathing? □ YES □ NO
   b. How would you classify Gyatsu’s illness? Write on the Recording Form.
3.5 TREAT THE CHILD WITH COUGH OR DIFFICULT BREATHING

REFRESH: WHAT DOES THE ‘IDENTIFY TREATMENT’ COLUMN IN THE CLASSIFICATION TABLE EXPLAIN?

The classification table identifies three pieces of critical information:

1. **Appropriate treatment** for each classification
2. **Where treatment is given**: either in a second-level facility (RED), at the clinic (YELLOW), or at home (GREEN)
3. **Pre-referral treatments**: are identified clearly (in bold), and are required if child needs urgent referral

WHAT TREATMENTS ARE IDENTIFIED FOR COUGH OR DIFFICULT BREATHING?

Open your classification chart. What treatments are listed in the “IDENTIFY TREATMENT” column for cough or difficult breathing? **There are three treatments that you will learn about in this section:**

- ✔ Oral antibiotics (amoxicillin)
- ✔ Remedy for soothing sore throats
- ✔ Inhaler treatment if wheezing

<table>
<thead>
<tr>
<th>CLASSIFY</th>
<th>IDENTIFY TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink: SEVERE</td>
<td>Give first dose of an appropriate antibiotic</td>
</tr>
<tr>
<td>PNEUMONIA OR</td>
<td>Refer URGENTLY to hospital**</td>
</tr>
<tr>
<td>VERY SEVERE</td>
<td></td>
</tr>
<tr>
<td>DISEASE</td>
<td></td>
</tr>
<tr>
<td>Yellow: PNEUMONIA</td>
<td>Give oral Amoxicillin for 5 days***</td>
</tr>
<tr>
<td></td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
</tr>
<tr>
<td></td>
<td>If chest indrawing in HIVexposed or infected child, give first dose of amoxicillin and refer to hospital.</td>
</tr>
<tr>
<td></td>
<td>If coughing for more than 2 weeks or if having recurrent wheezing, refer for further assessment or consider TB or asthma</td>
</tr>
<tr>
<td></td>
<td>Advise mother when to return immediately</td>
</tr>
<tr>
<td></td>
<td>Follow-up in 3 days</td>
</tr>
<tr>
<td>Green: COUGH OR</td>
<td>If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days****</td>
</tr>
<tr>
<td>COLD</td>
<td>Soothe the throat and relieve the cough with a safe remedy</td>
</tr>
<tr>
<td></td>
<td>If coughing for more than 2 weeks or if having recurrent wheezing, refer for assessment for TB or asthma</td>
</tr>
<tr>
<td></td>
<td>Advise mother when to return immediately</td>
</tr>
<tr>
<td></td>
<td>Follow-up in 5 days if not improving</td>
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</tbody>
</table>

*If pulse oximeter is available, determine oxygen saturation and refer if < 90%.

** If referral is not possible, manage the child as described in Integrated Management of Childhood Illness, Treat the Child, Annex: Where Referral is Not Possible, and WHO guidelines for inpatient care.

***Oral Amoxicillin for 3 days could be used in patients with fast breathing but no chest indrawing in low HIV settings.

**** In settings where inhaled bronchodilator is not available, oral salbutamol may be tried.
Follow along with your Chart Booklet TREAT THE CHILD section. This section of charts provides detailed instructions for providing each of these listed treatments.

**HOW WILL YOU GIVE ORAL ANTIBIOTICS?**

It is important to review some general instructions on giving antibiotics with integrated management, as this is the first time you are learning about antibiotic use within IMCI. You will refer back to this information when later Modules discuss antibiotic treatment.

You will see in your TREAT THE CHILD section that there are instructions for giving antibiotics for various classifications that require antibiotics. These are listed below.

**In this section you will learn about antibiotics for PNEUMONIA.**

- **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**
- **PNEUMONIA**
  - SEVERE DEHYDRATION with cholera in the area
  - DYSENTERY
  - VERY SEVERE FEBRILE DISEASE
  - SEVERE COMPLICATED MEASLES
  - MASTOIDITIS
  - ACUTE EAR INFECTION

**HOW DO YOU SELECT THE APPROPRIATE ANTIBIOTIC?**

Many health facilities have more than one type of antibiotic. You must learn to select the most appropriate antibiotic for the child’s illness. **Some important instructions for giving antibiotics include:**

- **GIVING FIRST LINE:** Give the “first-line” oral antibiotic if it is available. It has been chosen because it is effective, easy to give and inexpensive.

- **GIVING SECOND LINE:** You should give the “second-line” antibiotic only if the first-line antibiotic is not available, or if the child’s illness does not respond to the first-line antibiotic.

- **ORAL ANTIBIOTICS:** If the child is able to drink, give an oral antibiotic. The appropriate oral antibiotic for each illness varies by country. The antibiotics recommended in your country are on your TREAT THE CHILD chart.

**INTEGRATED MANAGEMENT: GIVING ANTIBIOTICS**

- **GIVE FIRST LINE** antibiotics
- **GIVE SECOND LINE** only if first line not available, or if child does not respond to first.
- **WHERE CHILD HAS TWO+ CLASSIFICATIONS REQUIRING ANTIBIOTICS** treat with one antibiotic for both classifications if possible
WHAT IF THE CHART IDENTIFIES MORE THAN ONE ILLNESS REQUIRING ANTIBIOTICS?

MULTIPLE ILLNESSES, ONE ANTIBIOTIC: Sometimes one antibiotic can be given to treat more than one illness. For example, a child with DYSENTERY and ACUTE EAR INFECTION can be treated with a single antibiotic, co-trimoxazole, if the first-line antibiotic for an ACUTE EAR INFECTION (co-trimoxazole) is also a first- or second-line antibiotic for DYSENTERY. **NOTE: when treating a child with more than one illness requiring the same antibiotic, do not double the size of each dose or give the antibiotic for a longer period of time.**

MULTIPLE ILLNESSES, MULTIPLE ANTIBIOTICS: Sometimes more than one antibiotic must be given to treat multiple health problems. For example, the antibiotics used to treat PNEUMONIA may not be effective against DYSENTERY in your country. Here, a child who needs treatment for DYSENTERY and PNEUMONIA must be treated with two antibiotics.

How do you decide on the appropriate dosage?

The TREAT THE CHILD chart has the **schedule** and **dose** for giving antibiotics. **SCHEDULE** tells you **how many days** and **how many times each day** to give the antibiotic. Most antibiotics should be given for 5 days. Only cholera cases receive antibiotics for 3 days. The number of times to give the antibiotic each day varies depending on the type of antibiotic.

**CORRECT DOSAGE** of the antibiotic is determined by:

1. Identify the column of the type of tablets or syrup available in your clinic.
2. Choose the row for the child’s weight or age. Use weight over age.
3. The correct dose is listed at the intersection of the column and row.

<table>
<thead>
<tr>
<th>AGE OR WEIGHT</th>
<th>AMOXICILLIN *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Give two times daily for 5 days for PNEUMONIA and ACUTE EAR INFECTION</strong></td>
</tr>
<tr>
<td></td>
<td>TABLET / (250 mg)</td>
</tr>
<tr>
<td>2 months up to 12 months (4 – &lt;10 kg)</td>
<td>1</td>
</tr>
<tr>
<td>12 months up to 3 years (10 – &lt;14 kg)</td>
<td>2</td>
</tr>
<tr>
<td>3 years up to 5 years (14 – 19 kg)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Amoxicillin is now the first-line drug of choice in the treatment of pneumonia due to its efficacy and increasing high resistance to cotrimoxazole.*

**CRUSHING OR BREAKING TABLETS:** If a tablet has to be crushed before it is given to a child, add a few drops of clean water and wait a minute or so. This softens the tablet to make it easier to crush.
**HOW ARE ANTIBIOTICS GIVEN FOR PNEUMONIA?**

If the child is classified as **SEVERE PNEUMONIA**, the first dose of the antibiotic should be given before urgent referral. If the classification is **PNEUMONIA**, you will give the first dose of **oral amoxicillin** in the clinic and teach the caregiver how to give the remaining 5 days of treatment at home. Amoxicillin is now the recommended first-line antibiotic to treat pneumonia due to its efficacy, and the increasing resistance to cotrimoxazole.

Now that you have learned how to give oral antibiotics, you will examine other treatments required for cough or difficult breathing classifications.

**HOW WILL YOU GIVE AN INHALER FOR WHEEZING?**

If the child has wheezing and will require an inhaler treatment in the clinic or at home, review the TREAT THE CHILD chart for inhaled salbutamol for wheezing.

- From salbutamol metered dose inhaler (100 μg/puff) give 2 puffs.
- Repeat up to 3 times every 15–20 minutes before classifying pneumonia.

A **spacer** is a way of delivering the bronchodilator medicines effectively into the lungs. A spacer works as well as a nebuliser if correctly used. **No child under 5 should be given an inhaler without a spacer.**

If commercial spacers are not available, **spacers can be easily made with a drink bottle (500 ml) or something similar.** Using a sharp knife, cut a hole in the bottle base in the same shape as the mouthpiece of the inhaler. Cut the bottle between the upper quarter and the lower ¼. Disregard the upper quarter of the bottle. Cut a small V in the border of the large open part of the bottle to fit to the child’s nose and be used as a mask. Flame the edge of the cut bottle with a candle or a lighter to soften it. In a small baby, a mask can be made by making a similar hole in a plastic (not polystyrene) cup.

**To use an inhaler with a spacer:**

✔ Remove the inhaler cap. Shake the inhaler well.

✔ Insert mouthpiece of the inhaler through the hole in the bottle or plastic cup.

✔ The child should put the opening of the bottle into his mouth and breath in and out through the mouth.

✔ A carer then presses down the inhaler and sprays into the bottle while the child continues to breath normally.

✔ Wait for three to four breaths and repeat.

✔ For younger children place the cup over the child’s mouth and use as a spacer in the same way.

✔ If a spacer is being used for the first time, prime with 4-5 extra puffs from the inhaler.
WHAT IS A SOOTHING REMEDY FOR THE THROAT?
Find this chart in your TREAT charts. To soothe the throat or relieve a cough, use a safe remedy. Such remedies can be homemade, given at the clinic, or bought at a pharmacy. It is important that they are safe. Homemade remedies are as effective as those bought in a store. Your TREAT THE CHILD chart recommends safe, soothing remedies for children with a sore throat or cough. If the child is exclusively breastfed, do not give other drinks or remedies. Breastmilk is the best soothing remedy for an exclusively breastfed child.

**Harmful remedies may be used in your area.** If so, they should be recorded in the box. Never use remedies that contain harmful ingredients, such as atropine, codeine or codeine derivatives, or alcohol. These items may sedate the child. They may interfere with the child’s feeding. They may also interfere with the child’s ability to cough up secretions from the lungs. Medicated nose drops (that is, nose drops that contain anything other than salt) should also not be used.

**When explaining how to give the safe remedy, it is not necessary to watch the mother practice giving the remedy to the child.** Exact dosing is not important with this treatment.

**DVD EXERCISE – CASE STUDY ‘BEN’**
*Watch ‘Case study Ben’ (disc 1). Watching this case is a great way to practice.*

*As you watch the video, complete the recording form below as you would a normal case.* Does Ben present with any general danger signs? How do you classify?

**AN IMPORTANT NOTE:** videos are used to show signs. The classification discussed at the end of the video may not be accurate due to recent technical updates.

**MANAGEMENT OF THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS**

**Name:**  
**Age:**  
**Weight (kg):**  
**Initial Visit?**  
**Follow-up Visit?**  

**CLASIFY**

<table>
<thead>
<tr>
<th>CHECK FOR GENERAL DANGER SIGNS</th>
<th>LETHARGIC OR UNCONSCIOUS</th>
<th>CONVULSING NOW</th>
<th>DANGER SIGN WHEN SELECTING CLASSIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT ABLE TO DRINK OR BREASTFEED</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>VOMITS EVERYTHING</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CONVULSIONS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?**

- For how long? ___ Days
- Count the breaths in one minute
- ___ breaths per minute. Fast breathing?
- Look for chest indrawing
- Look and listen for stridor
- Look and listen for wheezing

**General danger sign present?**
- Yes ___  No ___

**Remember to use classifications**

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SELF-ASSESSMENT EXERCISE D

Answer the following questions about the treatments you have read about.

1. Are these statements true or false? Circle your answer.
   a. You should give a child the first-line antibiotic, unless it is unavailable or the child has not responded to it. TRUE FALSE
   b. If a child has more than one illness that requires antibiotics, if possible, give one antibiotic for more than one illness. TRUE FALSE
   c. If a child can drink, it is preferable to give syrup antibiotics. TRUE FALSE
   d. If a child has two illnesses that require the same antibiotic, you should, just double the dosage or put the child on the treatment for 10 days instead of 5. TRUE FALSE

2. How often should you give amoxicillin for pneumonia?

3. What is the correct dosage for the following oral treatments? Refer to your dosage chart for pneumonia. Write out the medicine and concentration, and its dosage and schedule.
   a. Child is 3 months old, weighs 5 kg, and can drink. You have amoxicillin syrup in your clinic.
   b. Child is 9 months old, and you have amoxicillin tablets.
   c. Child is 13 months old, and 8 kg. She can drink. You have amoxicillin syrup in your clinic.
   d. Child is 4 years. You have amoxicillin tablets in the clinic.

4. What is meant by a "safe" remedy? Give an example.

5. Give at least 2 examples of remedies that are not safe.
Now you will return to Jacob. What treatments are identified?

Review your classification table in your Chart Booklet. The TREATMENT column instructs on the appropriate treatment for each classification. You have classified Jacob’s problem as PNEUMONIA:

The classification chart instructed that the correct treatments are:

- An oral antibiotic
- Soothe the throat and relieve the cough with a safe remedy
- Advise Amira when to return: 3 days for PNEUMONIA, or immediately if he worsens

How will you give Jacob the oral antibiotics?

First, you prescribe amoxicillin in syrup form. Jacob is able to drink, so an oral antibiotic is given. Amoxicillin is an appropriate first-line in your clinic.

Second, you must determine Jacob’s dosage. Jacob is 6 months old, and weighs 5 kg. What is the correct dosage? The chart determines that the correct dosage for Jacob is 5 ml of syrup (250 mg/5 ml), given twice a day for 5 days.

You also designate a safe remedy for cough in your area. Breast milk will be an important remedy for Jacob because he is breastfed.

In the next section, you will learn more about how you will counsel Amira on why the antibiotic is important to treat Jacob’s pneumonia. You will counsel her on how she will give it in the home. You will also counsel her on giving the throat remedy. You will explain to Amira why the antibiotic is important to treat Jacob’s pneumonia.
3.6 COUNSEL THE CAREGIVER

WHY MUST YOU COUNSEL THE CAREGIVER?
As you will remember from previous lessons, this is an important opportunity to counsel home treatment, feeding, care in the home, and when to return to the clinic. You will counsel the caregiver on all relevant treatment and health conditions after you have assessed, classified, and decided on treatment for all conditions.

AS A REVIEW, WHAT ARE GOOD COMMUNICATION SKILLS DURING COUNSELLING?
For the full discussion on communication skills when using IMCI, refer back to your section on “Good communication and counselling skills” in INTRODUCTION PART 1. Quickly review these good skills that you have learned about.

APAC PROCESS
Used as you assess, classify, treat, and counsel:

➤ **ASK** and **LISTEN** to find out what the child’s problems are and what the caregiver is already doing for the child.

➤ **PRAISE** the caregiver for what she has done well.

➤ **ADVISE** her how to care for her child at home.

➤ **CHECK** the caregiver’s understanding, using checking questions

THREE BASIC TEACHING STEPS
For example, Jacob’s pneumonia requires oral antibiotic given at home. What should you remember as you teach Amira how to give this treatment?

1. **GIVE INFORMATION** – use words the caregiver understands, and focus on the most important messages

2. **SHOW AN EXAMPLE** – using familiar objects as teaching aids

3. **LET HER PRACTICE** – affirm, give feedback, and allow for more practice as needed

HOW WILL YOU COUNSEL A CAREGIVER ABOUT COUGH OR DIFFICULT BREATHING?
There are several topics relevant to cough or difficult breathing. You will read more about these topics below. They include:

➤ Giving oral antibiotics in the home

➤ Giving soothing remedies in the home

➤ How to use an inhaler if necessary for wheezing

➤ When to return immediately

➤ When to follow-up
GIVING ORAL MEDICINES AT HOME:

Your TREAT THE CHILD charts include instructions for counselling a caregiver on giving oral medicines at home. The oral medicines listed on the chart are given for different reasons, in different doses and on different schedules. However, the way to give each drug is similar.

Pneumonia requires antibiotics given at home. **However, as this is the first time we are dealing with giving an oral drug, we will review the basic steps of teaching caregivers to give oral medicines.** If a caregiver learns how to give a drug correctly, then the child will be treated properly.

The important points to remember are:

- **DETERMINE APPROPRIATE MEDICINES & DOSAGE** – for child’s weight and age
- **EXPLAIN TREATMENT** – tell caregiver why you are giving the drug to the child
- **DEMONSTRATE** how to measure a dose
- **LET HER PRACTICE** – watch the caregiver practice measuring a dose by herself. Tell her what she has done correctly when she measures the dose, or crushes a tablet. If she measured the dose incorrectly, show her again how to measure it.
- **ASK CAREGIVER TO GIVE FIRST DOSE** to the child
- **EXPLAIN DRUG CAREFULLY, THEN LABEL AND PACKAGE** – Tell the mother how much of the drug to give her child. Tell her how many times per day to give the dose.

Tell her when to give it (such as early morning, lunch, dinner, before going to bed) and for how many days. Write the information on a drug label. This is an example:
HOW DO YOU LABEL AND PACKAGE A DRUG?

To write information on a drug label, be sure to write the instructions clearly so that a literate person is able to read and understand them:

1. Write the full name of the drug.

2. Write the total amount of tablets, capsules, or syrup to complete the course of treatment.

3. Write the daily dose and schedule. For example: ½ tablet twice daily for 5 days.
   - Write the correct dose for the patient to take. For example, the number of tablets, capsules, drops, or spoonfuls.
   - Write when to give the dose. For example, early morning, lunch, dinner, before going to bed.

EXAMPLES OF DRUG LABELS:

4. To package the drug, put the total amount of each drug into its own labelled drug container. Use clean containers. This could be an envelope, paper, tube, or bottle. It is important to keep medicines clean. After you have labelled and packaged the drug, give it to the mother.

   ![Drug Label Examples]

TIPS FOR DRUG LABELS

- **REPEAT IF MORE THAN ONE DRUG** – give, collect, count, and package each drug separately
- **EMPHASIZE COURSE OF TREATMENT** – explain that all the tablets or syrup must be used to finish the course of treatment, even if the child gets better.
- **CHECK CAREGIVER’S UNDERSTANDING** – ask checking questions to make sure she understands how to treat her child. In some clinics, a drug dispenser has the task of teaching the caregiver to give treatment and checking the caregiver’s understanding. If this is your situation, teach the skills you are learning here to that dispenser.
WHEN TO RETURN FOR FOLLOW-UP CARE:
The TREATMENT column in your chart booklet designates how soon the child should return for follow-up.

<table>
<thead>
<tr>
<th>A child with PNEUMONIA</th>
<th>Follow-up in 3 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>A child with COUGH OR COLD</td>
<td>Follow-up in 5 days if not improving</td>
</tr>
</tbody>
</table>

WHEN TO RETURN IMMEDIATELY:
You should always counsel the caregiver on looking for signs that they should bring the child immediately to the clinic.

*Turn to INTRODUCTION PART 2 to review these signs.*

WHEN TO RETURN IMMEDIATELY
Advise the caregiver to return immediately if the child has any of these signs:

- Any sick child
  - ✔ Not able to drink or breastfeed
  - ✔ Becomes sicker
  - ✔ Develops a fever

- If child has COUGH OR COLD
  - ✔ Fast breathing
  - ✔ Difficult breathing

SELF-ASSESSMENT EXERCISE E
Rewrite the following questions as good checking questions.

1. Do you remember when to give the amoxicillin?

2. Do you understand how much amoxicillin syrup to give your child?

3. Did the nurse explain to you how to use an inhaler?

4. Do you know how to make a remedy for the throat?
SELF-ASSESSMENT EXERCISE F

Review the case below on treating with antibiotics.

Nurse Aluka gives some oral antibiotics to a mother for her child, Maria Balana. Before he explains how to give them, Aluka asks the mother if she knows how to give her child the medicine. The mother nods her head yes. So Aluka gives her the antibiotics and says good-bye.

1. If a mother tells you that she already knows how to give a treatment, what should you do?

2. How would you fill out this drug label? You have classified the child’s respiratory condition as PNEUMONIA. Maria Balana is 4 months old. You have adult co-trimoxazole tablets (80/400 mg) in your clinic.

3. When should a child classified as COUGH OR COLD return immediately to the clinic?

4. When should they follow-up on the cough or cold?
How will you counsel Amira about Jacob’s pneumonia?

Amira hovers over you and asks what you have found. You explain to her what you have observed and what you think it means. You explain to Amira that Jacob is breathing faster than he normally should, and that you think he has pneumonia.

Amira becomes very panicked and says that Jacob is going to die. She says that she must run home with him in case he dies away from home and her husband will be furious with her. You ask Amira to sit down and you try to calm her. You ask her why she is so afraid. She says it is because her other child died so young.

You explain that pneumonia is an infection, but there is treatment for him to take. You will be able to give this treatment at home. You will teach her steps to care for the pneumonia at home.

How you will begin to explain treatment?

You emphasize that it is really important that Jacob receives appropriate treatment for his pneumonia. Without treatment, he could become very ill. You reassure her that you will tell her all of the steps for the treatment Jacob needs. This will help ensure that Jacob will get better.

Amira starts to settle and her face relaxes a little. However, she is still worried about Jacob and worried about her husband’s response. You explain to her that this infection can be treated but that it will take some time. She will need to give Jacob antibiotics on a regular basis.

You also encourage Amira to bring Jacob’s father to the clinic if he wishes to have further questions answered. You encourage Amira to discuss these things with Jacob’s father and ask him to help with Jacob’s treatment.

As a reminder, you want to counsel Amira on these topics relevant to Jacob’s pneumonia:

- Giving oral antibiotics in the home
- Giving soothing remedies in the home
- When to return immediately
- When to return for follow-up

How will you teach Amira about home treatment?

You have already identified that Jacob needs an oral antibiotic for 5 days. He will receive it twice a day. You will also teach Amira how to make and give a safe remedy for sore throat. You also explain to her that the medicine you are giving needs to be taken regularly. Explain that it will take a few days for Jacob to improve. Remind her that you must see Jacob again to watch his progress.
How will you explain antibiotic treatment?

Jacob will get his first dose of antibiotic in the clinic. **This provides a good teaching opportunity for you to instruct Amira on the correct way to give her son the antibiotic at home.**

You show Amira how to measure the correct dose of the syrup. You ask her to practice measuring it while you watch. Then, you ask her to give the first dose to Jacob in the clinic. You praise her for doing a good job.

You give her a bottle of the syrup and remind her that she must give it to Jacob twice a day for the full 5 days. Even if Jacob gets better before the 5 days are up, she must continue the treatment. You label the syrup and give her the package.

What will you tell Amina about follow-up?

You again praise her for being such a good mother and bringing in her sick child for treatment. You encourage her to continue breastfeeding, as that is the best way to soothe her son if his throat is sore.

Then, you ask Amira to bring Jacob back in 3 days to check on his condition. You record this date on Jacob’s recording form. Then you will take Amira’s Mothers Card and review the signs that she should be aware of for immediate return to the clinic.

Amira still seems fearful, but very reluctantly agrees with the plan that you have discussed together. She puts Jacob onto her back and walks off back to her village. You watch her go and wonder what will happen.

Now you will learn how to provide follow-up care for respiratory illnesses:

A few days later you are sitting in your busy clinic room when you see Amira coming to the door. As she unbundles Jacob, you notice that this time her face is less fearful. You also see that her husband is with her, as he has decided to come to the clinic to talk with you.

How will you provide care to Jacob? You will learn about follow-up for cough or difficult breathing in the next section.
3.7 PROVIDE FOLLOW-UP CARE FOR COUGH OR DIFFICULT BREATHING

REFRESH: WHAT ARE THE STEPS TO PROVIDING FOLLOW-UP CARE?
During a follow-up visit, you will do two things.

**FIRST, YOU ASSESS PREVIOUS CLASSIFICATIONS**

✔ You will check the child for general danger signs.
✔ You will assess for cough or difficult breathing. You will ASK:
   1. Is the child breathing slower than on his first visit?
   2. Is there less fever?
   3. Is the child eating better?
✔ You will assess if the child’s respiratory condition is:
   ▲ IMPROVING
   ► THE SAME
   ▼ WORSENING

**SECOND, YOU WILL USE IMCI TO FULLY RE-ASSESS THE CHILD**
Second, you will use IMCI to reassess the child using IMCI to see if there are any new issues. You will use a second recording form for this visit.

WHEN SHOULD A CHILD WITH COUGH OR DIFFICULT BREATHING RETURN FOR FOLLOW-UP?
A child with PNEUMONIA should follow-up in 3 days. A child with COUGH OR COLD should follow-up in 5 days if not improving. You have read in the box above about what signs you will ask in the follow-up visit. You will use these to decide if the child is improving, worsening, or the same.

▼ CHILD HAS A GENERAL DANGER SIGN
The child is getting worse. This child needs urgent referral to a hospital.

▼ CHEST INDRAWING OR BREATHING RATE, FEVER, AND EATING ARE SAME
The signs may not be exactly the same as 3 days before – but the child is not worse, and not improving. This child needs urgent referral to a hospital.

▲ CHILD IS BREATHING SLOWER AND WITHOUT CHEST INDRAWING, EATING BETTER, AND LESS FEVER
The child is improving. The child may cough, but most children who are improving will no longer have fast breathing. The fever is lower or completely gone.

What actions will you take?
Tell the mother that the child should finish taking the 5 days of the antibiotic. Review with her the importance of finishing the entire 5 days.
How will you provide follow-up care for Jacob?

Amira has returned to the clinic with her husband. Amira looks more relaxed. You welcome Amira and her husband and praise them for bringing Jacob back for a follow-up visit. Amira tells you that she has been giving her son his antibiotic regularly, as you discussed. Amira says that Jacob seems to be better.

You check Jacob over and ask the appropriate questions for a pneumonia follow-up visit:

- Is Jacob breathing slower than on his first visit?
- Is there less fever?
- Is he eating better?

You notice that Jacob is coughing much less. His breathing rate is now 40 breaths per minute. Amira says that he is eating better. He will take solid foods and is breastfeeding better now.

THE CHILD IS BREATHING SLOWER AND EATING BETTER

Jacob is improving. You tell his parents that he is much better. They are relieved and thank you for the help.

What actions will you take?

You remind Amira that Jacob should finish taking 5 days of the antibiotic. Review with her the importance of finishing the entire 5 days. And again, praise the parents for their good care of Jacob.

REMEMBER!
If child needs follow-up for more than one condition, they should come at the earliest definite follow-up.
SELF-ASSESSMENT EXERCISE G

Read the following case study. Answer the questions about how you would manage the case. Refer to any of the case management charts as needed.

Pandit’s mother has brought him back for follow-up. He is one year old. Three days ago he was classified as having PNEUMONIA and you gave him amoxicillin. You ask how he is doing and if he has developed any new problems. His mother says that he is much better.

1. How would you reassess Pandit today? List all the signs you would look at and write the questions you would ask his mother.

When you assess Pandit, you find that he has no general danger signs. He is still coughing and he has now been coughing for about 10 days. He is breathing 38 breaths per minute and has no chest indrawing and no stridor. His mother said that he does not have fever. He is breastfeeding well and eating some food. He was refusing all food before. He was playing with his brother this morning.

2. Based on Pandit’s signs today, what actions will you take?
3.8 USING THIS MODULE IN YOUR CLINICAL PRACTICE

How will you begin to apply the knowledge you have gained from this module in managing children with cough or difficult breathing? In the coming days, you should focus on these key clinical skills and using your Chart Booklet and recording form. Practicing will help you better understand the clinical signs needed to assess and classify these children.

ASSESS
✓ Ask caregivers if their children have a cough or difficult breathing, and for how long. Explain difficult breathing if they do not understand.
✓ Look at the children’s chests to identify difficult breathing.
✓ Count the number of breaths in one minute. Decide if it is fast breathing.
✓ Watch children’s chest walls. See how in normal children the chest wall and abdomen move out when the child breathes in.
✓ Identify chest indrawing – the lower chest wall moves in when child breathes in.
✓ Listen for the different noises of breathing – do you hear stridor or wheezing?

CLASSIFY
✓ Use your chart booklet to classify the signs you identify in children
✓ Record your classifications and appropriate treatment on your recording form.

TREAT
✓ Determine the appropriate treatment for a respiratory classification.
✓ Determine the correct type and dosage of antibiotic.
✓ Determine safe remedies in your area.

COUNSEL
✓ Use the key communication skills (APAC, 3 teaching steps) as you counsel caregivers.
✓ Teach a caregiver how to give the antibiotic at home.
✓ Teach a caregiver about making or buying and giving a safe remedy for sore throat or cough.
✓ Counsel about when to return for follow-up on this respiratory condition.
✓ Counsel about when to return immediately.

FOLLOW-UP
✓ Re-assess the child’s previous classification
✓ Determine how you will manage

Remember to use your logbook for MODULE 3:
- Complete logbook exercises, and bring completed to the next meeting
- Record cases on IMCI recording forms, and bring to the next meeting
- Take notes if you experience anything difficult, confusing, or interesting during these cases. These will be valuable notes to share with your study group and facilitator.
3.9 REVIEW QUESTIONS

AFTER THE MODULE: WHAT DO YOU KNOW NOW ABOUT MANAGING COUGH OR DIFFICULT BREATHING?

Before you began studying this module, you practiced your knowledge on with several questions. Now that you have finished the module, you will answer the same questions. This will help demonstrate what you have learned.

**Circle the best answer for each question.**

1. What clinical signs can help you identify if a child has pneumonia?
   a. Wet cough
   b. Fast breathing
   c. Runny nose

2. If a child has pneumonia, how will you treat?
   a. Oral antibiotics
   b. Honey
   c. Paracetamol

3. Why is it important to correctly identify and manage pneumonia?
   a. Pneumonia is very common, but it is not so serious for children
   b. Pneumonia is a major killer of children under 5 around the world, and it requires early management
   c. Children with pneumonia need to be isolated from all other family members

4. Chest indrawing is when:
   a. The lower ribs move in when the child breathes out
   b. The lower ribs move in when the child breathes in
   c. The lower ribs are always pushed in, no matter if the child is breathing in or out

5. Children who have a cough, but do not show signs of pneumonia, should immediately receive an antibiotic:
   a. TRUE
   b. FALSE

6. The following is a good checking question: “how will you prepare a safe home remedy for cough?”
   a. TRUE
   b. FALSE

---

**Check your answers on the next page. How did you do? ............... complete out of 5.**

Did you miss questions?

Turn back to the section to re-read and practice the exercises.
3.10 ANSWER KEY

NOTE: All video exercises discuss answers in the video.

REVIEW QUESTIONS

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
<th>Did you miss the question? Return to this section to read and practice:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>INTRODUCTION, ASSESS</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>TREAT</td>
</tr>
<tr>
<td>3</td>
<td>B</td>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>4</td>
<td>B</td>
<td>ASSESS</td>
</tr>
<tr>
<td>5</td>
<td>B</td>
<td>CLASSIFY, TREAT</td>
</tr>
<tr>
<td>6</td>
<td>A</td>
<td>COUNSEL</td>
</tr>
</tbody>
</table>

EXERCISE A (ASSESS)

1. Fast breathing, chest indrawing.

2. Answers below
   a. 3 years, 36 breaths per minute NO
   b. 12 months, 50 breaths per minute YES
   c. 6 months, 45 breaths per minute NO
   d. 3 months, 57 breaths per minute YES

3. Answers below:
   a. ASK: does the child have cough or difficult breathing?
   b. LOOK: do you notice any issues with breathing?

4. Continue to the next assessment, for diarrhoea.

EXERCISE B (CLASSIFY)

1. Signs below are matched with the appropriate classification.

<table>
<thead>
<tr>
<th>SIGNS</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sal is 9 months old and has a cough. You count 45 breaths per minute</td>
<td>COUGH OR COLD</td>
</tr>
<tr>
<td>Linus is 3 months old, and you could 65 breaths in one minute. When</td>
<td>SEVERE PNEUMONIA or VERY SEVERE DISEASE</td>
</tr>
<tr>
<td>he breathes in, has had convulsions during current illness.</td>
<td></td>
</tr>
<tr>
<td>Jojo is 3 years old. You count 56 breaths in one minute. No</td>
<td>PNEUMONIA</td>
</tr>
<tr>
<td>indrawing or stridor.</td>
<td></td>
</tr>
</tbody>
</table>

2. Answers below. If the statement is false, a correct statement is provided.
   a. FALSE: You look for chest indrawing when the child breathes IN.
   b. TRUE
   c. TRUE
   d. FALSE: If a child shows no signs, they are classified as COUGH OR COLD.
   e. FALSE: A child with chest indrawing may not have fast breathing.
   f. TRUE
g. FALSE: Fast breathing in this age group 50 or more breaths per minute.

h. TRUE

i. TRUE

j. FALSE: Classify as SEVERE PNEUMONIA OR VERY SERIOUS DISEASE. This child shows signs from two classifications. Fast breathing is a sign of PNEUMONIA (yellow). He also has a general danger sign (red classification). When a child presents with signs from different boxes, you always classify with the more severe.

**EXERCISE C (GYATSU)**

1. Form below:

**MANAGEMENT OF THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS**

<table>
<thead>
<tr>
<th>Name: Gyatsu</th>
<th>Age: 6 months</th>
<th>Weight (kg): 5.5 kg</th>
<th>Temperature (°C): 38 °C</th>
</tr>
</thead>
</table>

**CHECK FOR GENERAL DANGER SIGNS**
- NOT ABLE TO DRINK OR BREASTFEED
- VOMITS EVERYTHING
- CONVULSIONS
- LETHARGIC OR UNCONSCIOUS
- CONVULSING NOW

**DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING?**
- For how long? 2 Days
- Count the breaths in one minute
- Fast breathing?
- Look for chest indrawing
- Look and listen for stridor
- Look and listen for wheezing

**CLASSIFY**
- General danger sign present?
  - Yes ✓ No
  - Remember to use Danger sign when selecting classifications
- Pneumonia

2. To classify Gyatsu’s illness, look at the classification table for cough or difficult breathing in your chart booklet. Look at the pink (or top) row.

   a. NO
   b. NO
   c. NO

3. If he does not have the severe classification, look at the yellow (or middle) row.

   a. NO
   b. PNEUMONIA

**EXERCISES D (TREATMENT)**

1. Answers below:
   a. TRUE
   b. TRUE
   c. TRUE
   d. FALSE

2. 5 days, 2 times a day

3. What is the correct dosage for the following oral treatments?
   a. 5 ml (250 mg/5 ml), two times a day, for five days
   b. 1 tablet (250 mg), two times a day, for five days
   c. 10 ml (250 mg/5 ml), two times a day, for five days
   d. 3 tablets (250 mg), two times a day, for five days
4. Many safe remedies are locally specific and recorded in your chart booklet. Remedies can be homemade, given at clinic, or bought at pharmacy. Breast milk is best remedy for exclusively breastfed child – do not give other drinks or remedies.

5. Many unsafe remedies are locally specific and recorded in your chart booklet. Other harmful remedies contain atropine, codeine or codeine derivatives, or alcohol. These items may sedate the child. They may interfere with the child’s feeding. They may also interfere with the child’s ability to cough up secretions from the lungs. Medicated nose drops (that is, nose drops that contain anything other than salt) should also not be used.

EXERCISE E (COUNSEL)

ANSWERS: questions should now be open-ended, and begin with how, what, why, when, where, or how. You should not be able to answer them ‘yes’ or ‘no’. Some examples are below, but you will have your own questions.

1. Do you remember when to give the amoxicillin? When will you give the amoxicillin?
2. Do you understand how much syrup to give your child? How much syrup will you give your child?
3. Did the nurse explain to you how to give an inhaler? How will you give the inhaler?
4. Do you know how to make a remedy for the throat? How will you make a remedy for the throat at home?

EXERCISE F (COUNSEL)

1. Ask the mother to show you how to measure the dosage, and tell you the schedule for the antibiotic. If she is incorrect, give her information, and demonstrate for her. If she does indeed know the information and measures the dosage correctly, ask her to give the first dose so you can observe.

![Drugs Chart]

2. They must return immediately if breathing becomes fast or difficult.
3. They should return for a follow-up visit in 5 days, only if the cough is not improving.
EXERCISE G (PANDIT)

1. List all the signs you would look at and write the questions you would ask his mother:
   1. Is he able to drink or breastfeed?
   2. Does he vomit everything?
   3. Has he had convulsions?
   4. See if he is lethargic or unconscious.
   5. Is he still coughing? How long has he been coughing?
   6. Count the breaths in one minute.
   7. Look for chest indrawing.
   8. Look and listen for stridor.
   9. Is he breathing slower?
  10. Is there less fever?
  11. Is he eating better?

2. Tell his mother that he is improving nicely. She should continue giving him the pills as she has been until they are all gone. You should ask her checking questions about how she has been giving the treatment. If you notice any issues, or she has any concerns and questions, address this.