Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Participant's Guidebook

Second Edition : 2025

Child Health Program
Non-Communicable Disease Division,
Department of Public Health, Ministry of Health

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CONTENTS

1. Introduction and background

Neonatal conditions and infectious diseases like pneumonia, diarrhoea, malaria, measles, meningitis and malnutrition caused over 80% of the under five deaths globally. Majority of these deaths can be prevented with effective interventions which are feasible even in resource constrained countries. Hence, Integrated Management of Childhood Illness (IMCI) strategy was developed in the mid-1990s by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to address the high rates of childhood mortality in low- and middle-income countries, The IMCI strategy takes a holistic approach to a child's health where healthcare providers are trained to assess a child for a variety of conditions at once since many children suffer from overlapping illnesses. The strategy provides a framework for managing common childhood illnesses, promoting healthy growth and development, and preventing diseases.

The original IMCI strategy primarily targeted children from one week to five years of age. However, as child mortality rates began to decline, it became evident that a significant proportion of deaths were occurring in the first month of life (the neonatal period). To address this, the strategy was extended to include the management of illnesses in newborns, leading to the creation of the Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy.

This extension was crucial because many neonatal deaths are caused by conditions that require specific interventions, such as birth asphyxia, sepsis, low birth weight and complications of preterm birth. This integrated approach ensures that newborns receive the specialized care they need to survive and thrive.

In line with the introduction of the IMNCI strategy by WHO & UNICEF, Bhutan adopted the IMCI strategy in the year 2001 at the primary health care level aiming to ensure early and accurate identification of childhood illnesses in outpatient settings, and appropriate combined case management, counseling of caregivers and timely referral. At PHC level where laboratory and radiology services do not exist, health care providers can benefit from IMNCI strategy where they can use evidence-based algorithms using history, signs and symptoms to determine the course of management and referral. The strategy integrates preventive and curative components delivered at the facility, community, and household levels.

At the household and community levels, IMNCI promotes timely care-seeking, improved nutrition, early childhood development, illness prevention, and correct adherence to treatment. The effectiveness of the IMNCI strategy was further enhanced in 2009, when its implementation was expanded to hospital settings. This expansion strengthened referral pathways and improved the management of childhood illnesses requiring advanced clinical care, ensuring continuity of care from the primary to the tertiary level.

1.1 Rationale

Globally, substantial reduction has been made in childhood mortality since 1990. The under-5 mortality rate dropped by 60% from 93 deaths per 1000 live births in 1990 to 37 in 2020. Similarly, neonatal deaths also declined from 5.0 million in 1990 to 2.3 million in 2022. However, the decline in neonatal mortality from 1990 to 2022 has been slower than that of post-neonatal under-5 mortality. Nevertheless, infectious diseases including acute respiratory infections, diarrhoea and malaria along with preterm birth complications, birth asphyxia and trauma, and congenital anomalies remain the leading causes of death for children under-5.

Sustainable Development Goal (SDG) 3.2 calls on nations to end preventable deaths of newborns and children under five, aiming to reduce under-five mortality to below 25 and neonatal mortality to below 12 deaths per 1,000 live births by 2030.

Bhutan has already met these global targets, with the National Health Survey 2023 reporting an under-five mortality rate of 19.5 and neonatal mortality rate of 6.9 per 1,000 live births. Despite this progress, the 13th Five Year Plan (2024–2029) aims to further reduce under-five mortality to 15 per 1,000 live births. While significant improvements in child health have been made, Bhutan continues to face challenges such as preventable deaths in children, stunting, wasting, underweight, anemia, and poor health-seeking behavior. Additionally, NHS 2023 reported 38.4% of children with fever and 18% with diarrhoea while 853 cases of pneumonia were reported in children 0-4 years in 2024 as per AHB 2025.

The prevalence of anemia among children aged 6–59 months has declined from 80.6% in 2003 to 43.8% in 2015, with a slight rise to 44.7% in 2023. According to anemia prevalence categorization, anemia levels above 40% represent a severe public health issue, which remains the case in Bhutan. Additionally, other forms of undernutrition persist among children under five years with 5.1% wasting (too thin for their height), 17.9% stunting (too short for their age), and 8.7% underweight. Owing to these ongoing challenges, it is paramount that key components of the IMNCI strategy are implemented optimally and widely in the country through which access to basic lifesaving interventions such as exclusive breastfeeding and adequate nutrition, vaccinations and treatment of common childhood illness can be ensured in saving young lives.

1.2 Scope of the guideline

This IMNCI guideline is intended to be used by pre-service and in-service Health Assistants in the country. This guideline provides the framework in assessing, classifying and identifying treatment and referral for managing common childhood illnesses such as pneumonia, diarrhoea, dysentery, fever, TB, jaundice, vaccination/

immunization and acute malnutrition in young infants and U5 children in the PHC. It can also guide in integrating preventive, promotive, and curative interventions bridging facility and community care.

The guideline is expected to harmonize training, supervision and monitoring besides ensuring children receive timely and standardized care.

1.3 COMPONENTS OF THE INTEGRATED APPROACH

The IMNCI strategy includes both preventive and curative interventions that aim to improve practices in health facilities, the health system and at home. At the core of the strategy is integrated case management of the most common neonatal and childhood problems.

The strategy includes three main components:

- Improving the skills of healthcare workers: This involves training healthcare providers in case management, communication, and counselling skills.
- Strengthening health systems: This component focuses on ensuring the availability of essential drugs and supplies, improving referral systems, and enhancing overall health service management.
- Improving family and community practices: This involves educating families and communities on key practices related to child health, such as nutrition, immunization, and seeking timely care.

1.4 THE PRINCIPLES OF INTEGRATED CARE

Depending on a child's age, various clinical signs and symptoms differ in their degree of reliability and diagnostic value and importance. Therefore, the IMNCI guidelines recommend case management procedures based on two age categories:

- Young infants aged up to 2 months
- Children aged 2 months up to 5 years

The IMNCI guidelines are based on the following principles:

1.4.1 For young infants

- Check young infants for POSSIBLE SERIOUS BACTERIAL INFECTION, VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION
- Check for JAUNDICE
- Assess for DIARRHOEA
- Check for FEEDING PROBLEM OR LOW WEIGHT FOR AGE IN BOTH BREAST FED AND NON- BREAST FED young infants

- Check the Immunization Status
- Assess other problem
- Assess the Mother's health needs
- Provide treatment and refer when required
- Advise the mother on home care for the sick young infant
- Counsel for feeding
- Follow up care

1.4.2 Children age 2 months upto 5 years

- All sick children aged 2 months upto 5 years must be assessed for GENERAL DANGER SIGNS which indicate the need for immediate referral to a hospital.
- Then assessed for main symptoms:
  - » COUGH OR DIFFICULTY BREATHING
  - » DIARRHOEA
  - » FEVER
  - » EAR PROBLEMS
- Check for ACUTE MALNUTRITION
- Check for ANAEMIA
- Check for TUBERCULOSIS (TB)
- Assess other problem
- Check the Immunization Status
- Provide treatment and refer when required
- Advise the mother on home care
- Counsel for feeding
- Follow up care

1.5 THE IMNCI CASE MANAGEMENT PROCESS

Decide which age group the child is in:

- Age up to 2 months
- Age 2 months up to 5 years

If the infant is not yet 2 months of age, the child is considered as a young infant. Use the chart ASSESS AND CLASSIFY THE SICK YOUNG INFANT UPTO 2MONTHS.

“UPTO 2 months” means that the child has not yet completed 2 months of age. For example, this age group includes an infant who is 1 month and 29 days old but not an infant who is 2 months old.

If the child is aged 2 months up to 5 years, select the chart ASSESS AND CLASSIFY THE SICK CHILDREN AGED 2 MONTHS UP TO 5 YEARS.

“UPTO 5 YEARS” means that the child has not yet had his fifth birthday. For example, this age group includes a child who is four years and 11 months but not a child who is five years old.

The case management of a sick child brought to a first-level health facility includes a number of important elements. Figures 1 and 2 illustrate the case management process in sick children 2 months up to 5 years and sick young infants upto 2 months of age respectively.

Outpatient Health Facility

- Assessment
- Classification and identification of treatment
- Referral, treatment or counselling of the child’s caregiver (depending on the classification(s) identified)
- Follow-up care

Referral to a Health Facility

- Emergency triage assessment and treatment (ETAT)
- Diagnosis, treatment and monitoring of patient progress

Appropriate Home Management

- Teaching mothers or other caregivers how to give oral drugs and treat local infections at home;
- Counselling mothers or other caregivers about food (feeding recommendations, feeding problems); fluids; development supportive practices (C4CD plus); when to return to the health facility; and the counselling mother about her own health.

Course method and materials

In addition to this module, you will receive a chart booklet that summarizes the steps in case management.

If the child is not yet two months of age, the child is considered a young infant. Children who are 5 years of age or older, i.e. have had their fifth birthday, should not be managed according to IMNCI chart booklet.

THE INTEGRATED CASE MANAGEMENT PROCESS

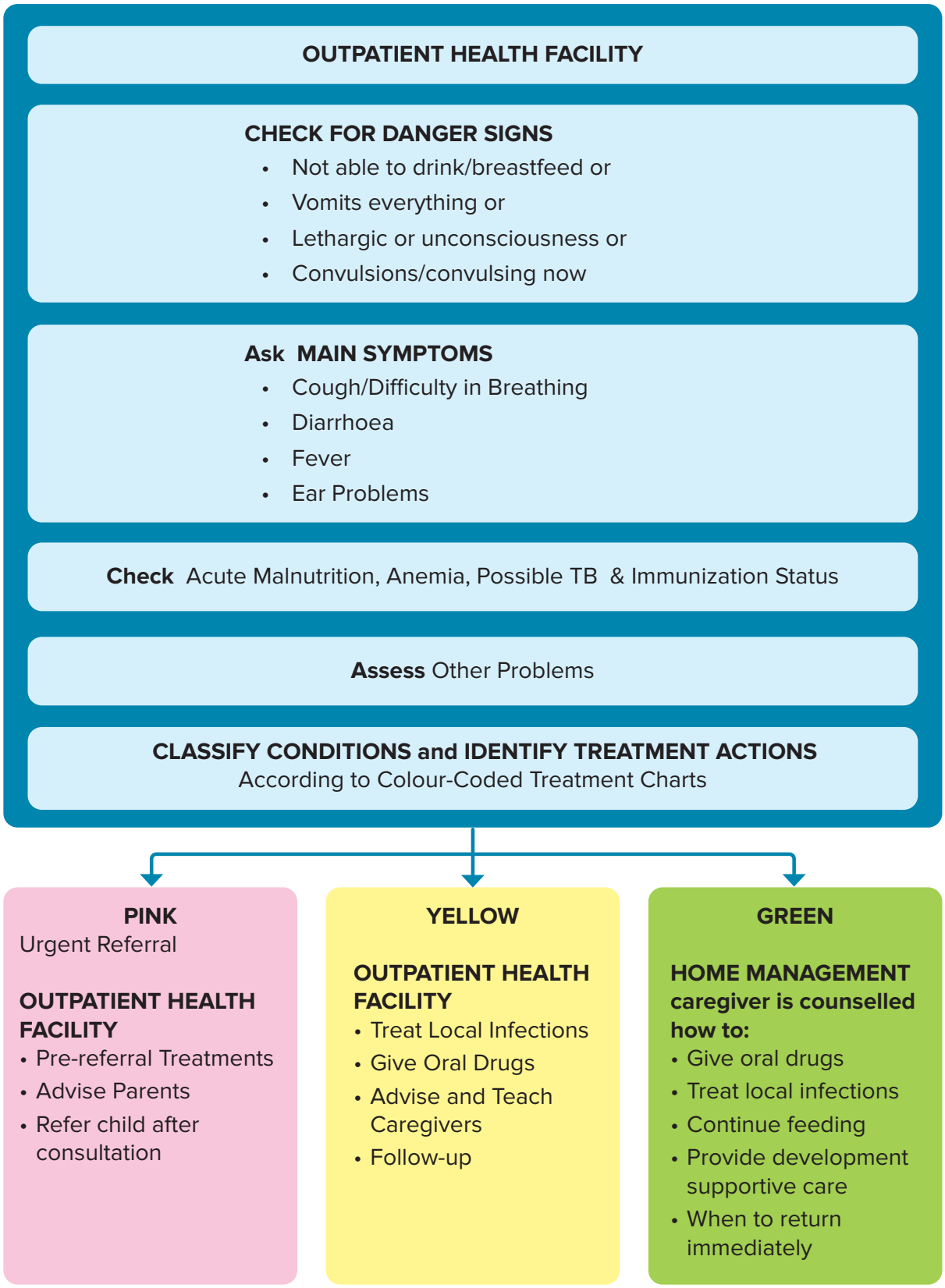


Figure 1-SICK CHILDREN AGE 2 MONTHS UP TO 5 YEARS

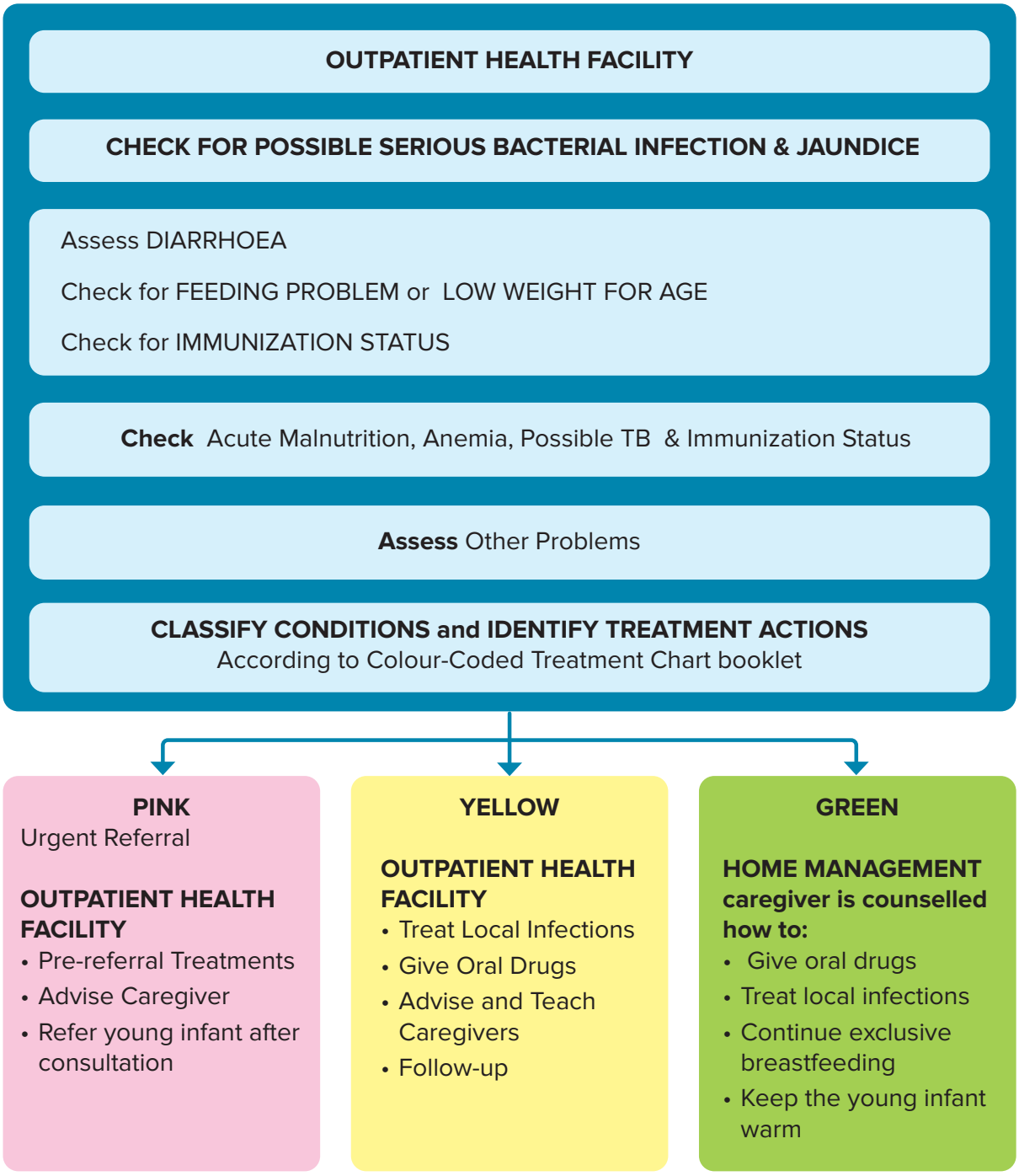


Figure 2- SICK YOUNG INFANTS UPTO 2MONTHS OF AGE

2. MANAGEMENT OF SICK CHILDREN AGE 2 MONTHS UPTO 5 YEARS

2.1 LEARNING OBJECTIVES

This section of the handbook will describe and allow you to practice the following skills:

- Asking the mother about the child's problem
- Checking for general danger signs
- Asking the mother about the four main symptoms:
  - » Cough or difficult breathing
  - » Diarrhoea
  - » Fever
  - » Ear problem
- When a main symptom is present:
  - » Assessing the child further for signs related to the main symptom
  - » Classifying the illness according to the signs which are present or absent
- Checking for signs of Acute Malnutrition and Anemia and classifying the child's nutritional status
- Checking for possible Tuberculosis
- Checking the child's immunization status and deciding if the child needs any immunizations today
- Assessing any other problems

2.2 ASSESSMENT OF SICK CHILDREN

The assessment procedure for this age group includes a number of important steps that must be taken by the health care provider, including: (1) history taking and communicating with the caregiver about the child's problem; (2) checking for general danger signs; (3) checking main symptoms; (4) checking for malnutrition; (5) checking for anemia; (6) assessing the child's feeding; (7) checking for possible TB (8) checking immunization status and (9) assessing other problems.

2.2.1 COMMUNICATING WITH THE CAREGIVER-HISTORY TAKING

Good communication techniques and an integrated assessment are required to ensure that common problems or signs of disease or malnutrition are not overlooked. Proper communication helps to reassure the mother or caregiver that the child will receive appropriate care. In addition, the success of home treatment depends on how well the mother or caregiver knows about giving the treatment and understands its importance.

The steps to good communication are:

- **Greet the mother or caregiver and give a friendly smile**
- **Ask the mother or caregiver what the young infant's problems are.**

Record what the mother or caregiver tells you about the child's problems.
An important reason for asking this question is to open good communication with the mother or caregiver. Using good communication helps to reassure the mother or caregiver that her child will receive good care. When you treat the child's illness later in the visit, you will need to teach and advise the mother or caregiver about caring for her sick child at home.

- **Listen carefully to what the mother or caregiver tells you.** This will show her that you are taking her concerns seriously.
- **Use words the mother or caregiver understands.** If she does not understand the questions you ask her, she cannot give the information you need.
- **Give the mother or caregiver time to answer the questions.** For example, she may need time to decide if a symptom you asked about is present.
- **Ask additional questions when the mother or caregiver is not sure about her answer.** When you ask about a symptom, the mother or caregiver may not be sure if it is present. Ask her additional questions to help her give clearer answers.

2.2.2 CHECKING FOR GENERAL DANGER SIGNS

Danger signs indicate serious illness. These can occur in many illnesses. Some danger signs may occur without any relationship to the type of illness. For example, fever, diarrhoea, pneumonia, meningitis or malaria can all produce lethargy or unconsciousness. These illnesses can also make the child so sick that the child is not able to drink any fluids. These are called general danger signs. The presence of even one general danger sign is enough to indicate a VERY SEVERE DISEASE.

The following danger signs should be routinely checked in all children:

- Not able to drink/breastfeed or
- Vomits everything or
- Lethargic or unconscious or
- Had convulsions/Convulsing now

Is the child able to drink or breastfeed?
A child has the sign "not able to drink or breastfeed" if the child is not able to swallow when offered a drink.

If the mother or caregiver says that the child is not able to drink or breastfeed, ask her to describe what happens when she offers the child something to drink. For example, is the child able to take fluid into his mouth and swallow it? If you are not sure about the mother's answer, ask her to offer the child a drink of clean water or milk. Look to see if the child is swallowing the water or milk.

A child who is breastfed may have difficulty in suckling when his nose is blocked. If the child's nose is blocked, clear it. If the child can breastfeed after his nose is cleared, the child does not have the danger sign, "NOT ABLE TO DRINK OR BREASTFEED."

Does the child vomit everything?
The vomiting itself may be a sign of serious illness but it is important to note because such a child will not be able to take fluids for rehydration or oral drugs. A child who vomits several times but can hold down some fluids does not have this general danger sign.

Has the child had convulsions or is convulsing now?
Ask the mother questions on whether the child has suffered from convulsions (local terms like- fits/spasms) or not. A child may present in the clinic with ongoing seizures. Such a child requires urgent treatment before referral/admission with anticonvulsants and maintenance of the airway and prevention of hypoglycaemia. Similarly history of convulsion in current illness indicates serious illness and needs urgent referral. Past history of convulsion (not in current illness) is not a general danger sign.

Is the child lethargic or unconscious?
An unconscious child is likely to be seriously ill. The unconscious child does not wake up at all. This child does not respond to touch, loud noise or pain. A lethargic child is sleepy when the child should be awake. A child who stares blankly and does not appear to notice what is happening around is also lethargic and may also be very sick. These signs may be associated with many conditions.

Note: If the child is sleeping and has a cough or difficult breathing, count the number of breaths first before you try to wake the child.

Remember:

- *All sick children must be assessed for general danger signs.*
- *A child who has even one general danger sign has a severe problem. Refer this child urgently to hospital.*
- *Complete the rest of the assessment and any pre-referral treatment immediately so that referral is not delayed.*

Case Recording form with GENERAL DANGER SIGNS

***CASE**: Sonam is 18 months old girl. She weighs 11.5 kg. Her temperature is 37.5°C. The Health Worker asked, "What are the child's problems?" The mother said "Sonam has been coughing for 6 days, and she is having difficulty breathing." This is the initial visit for this illness.*

The Health Worker checked Sonam for general danger signs. The mother said that Sonam is able to drink. She has not been vomiting. She has not had convulsions during this illness. The Health Worker asked, "Does Sonam seem unusually sleepy?" The mother said, "Yes". The Health Worker clapped his hands. He asked the mother to shake the child. Sonam opened her eyes, but did not look around. The Health Worker talked to Sonam, but she did not watch his face. She stared blankly and appeared not to notice what was going on around her.

MANAGEMENT OF THE SICK CHILDREN AGE 2 MONTHS UPTO 5 YEARS

Name: ***Sonam*** Age: ***18 months*** Gender: ***Female*** Weight: ***11.5 kg***
Temperature: ***37.5°C*** Date: ***27.09.2025***

ASK: What are the child's problems? ***Cough, difficulty in breathing*** Initial visit? _ ✓
Follow up visit?

ASSESS (Circle all signs present) CLASSIFY

CHECK FOR GENERAL DANGER SIGNS

- NOT ABLE TO DRINK OR BREASTFEED
- VOMITS EVERYTHING
- CONVULSIONS /CONVULSING NOW
- LETHARGIC/UNCONSCIOUSNESS

2.2.3 CHECKING MAIN SYMPTOMS

After checking for general danger signs, the health worker must check for the following main symptoms: (1) cough or difficult breathing; (2) diarrhoea; (3) fever; and (4) ear problem . The health worker must also check for nutritional status, anaemia, and possible Tuberculosis.

The first three symptoms are included because they are common causes of mortality in children less than five years. Ear problems are included because they are considered one of the main causes of childhood disability. Malnutrition, anaemia and paediatric tuberculosis are also prevalent among the children below 5 years of age.

2.2.3.1 COUGH OR DIFFICULT BREATHING

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

Many children are brought to the clinic with less serious respiratory infections. Most children with cough or difficulty breathing have only a mild infection. For example, a child who has a cold may cough because nasal discharge drips down the back of the throat. These children are not seriously ill. They do not need treatment with antibiotics. Their families can manage them at home.

When children develop pneumonia, their lungs become stiff. One of the body's responses to stiff lungs and hypoxia (too little oxygen) is fast breathing. When the pneumonia becomes more severe, the lungs become even stiffer. A child presenting with cough or difficult breathing should first be assessed for general danger signs, oxygen saturation, looking for fast breathing and chest indrawing.

Children with general danger signs, oxygen saturation (SpO2) less than 90% have severe pneumonia or another severe respiratory infection and need urgent referral. You also need to identify the few, sick children with cough or difficult breathing who need treatment with antibiotics. Fortunately, you can identify almost all cases of pneumonia by checking for two clinical signs: fast breathing, chest in drawing and ruling out hypoxia by checking oxygen saturation.

A child who has had a cough for more than 14 days needs to be referred to hospital for possible tuberculosis infection.

Clinical Assessment

Five key clinical signs are used to assess a sick child with cough or difficult breathing:

- Fast Breathing
- Chest indrawing
- Stridor
- Wheeze
- Check oxygen saturation (SpO2)

Fast breathing

No single clinical sign has a better combination of sensitivity and specificity to detect pneumonia in children under 5 years than respiratory rate, specifically fast breathing. Even auscultation by an expert is less sensitive as a single sign. Checking oxygen saturation is another sign which helps in identifying severe pneumonia requiring oxygen supplementation.

Cut-off rates for fast breathing (the point at which fast breathing is considered to be fast) depend on the child's age. Normal breathing rates are higher in children aged 2 months upto 12 months than in children age 12 months upto 5 years.

Child's Age	Cut-off Rate for Fast Breathing
2 months upto 12 months	50 breaths per minute or more
12 months upto 5 years	40 breaths per minute or more

Note: The child who is exactly 12 months old has fast breathing, if you count 40 breaths per minute or more.

The specificity of respiratory rate for detecting pneumonia depends on the prevalence of bacterial pneumonia among the population. In areas with high levels of viral pneumonia, respiratory rate has relatively modest specificity. Nevertheless, even if the use of respiratory rate leads to some over treatment, this will still be small compared with the current use of antibiotics for all children with an ARI, as occurs in many clinics.

Chest indrawing, defined as the inward movement of the bony structure of the chest wall with inspiration, is a useful indicator of severe pneumonia. It is more specific than isolated "intercostal indrawing." Chest indrawing should only be considered present if it is consistently present in a calm child. Agitation, a blocked nose or breastfeeding can all cause temporary chest indrawing. Chest in drawing is a sign of pneumonia in children.

Stridor is a harsh noise made when the child breathes IN. Stridor happens when there is a swelling of the larynx, trachea or epiglottis. These conditions are often called croup. This swelling interferes with air entering the lungs. It can be life threatening when the swelling causes the child's airway to be blocked. A child who has stridor when calm has a dangerous condition.

To look and listen for stridor, look to see when the child breathes IN. Then listen for the stridor by putting your ear near the child's mouth because the 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. A child who is not very ill may have stridor only when he is crying or upset. Be sure to look and listen for stridor when the child is calm. You may hear a wheezing noise when the child breathes OUT. This is not stridor.

Wheezing 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 a wheeze, even in mild cases, place your ear next to the child's mouth and listen to the breathing while the child is calm. You can use a stethoscope as wheezing is better heard with a stethoscope.

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 upto three times 15- 20 minutes apart. Count the breaths and look for chest indrawing again. Then classify the illness.

Check oxygen saturation (SpO2)

Oxygen saturation of blood is checked with a device called pulse oximeter. There are several types of pulse oximeter – finger probe type is most commonly used. Use whichever is supplied to you after cleaning the probe with an alcohol swab. A normal child has oxygen saturation between 95-100%. If oxygen saturation is less than 90% in a child with cough or difficulty breathing, this is a sign of severe pneumonia and the child will need oxygen supplementation. Reading should be taken when the child is not moving and there is proper wave formation on the display.

Classification of Cough or Difficult Breathing

Based on a combination of the above clinical signs, children presenting with cough or difficult breathing can be classified into three categories:

- Those who require urgent referral for possible **SEVERE PNEUMONIA OR VERY SEVERE DISEASE**

This group includes children with any general danger sign or stridor when calm or SpO2 less than 90%. Children with SEVERE PNEUMONIA OR VERY SEVERE DISEASE most likely will have invasive bacterial or viral organisms and diseases that may be life-threatening. The child needs urgent referral to a hospital for treatments such as oxygen, a bronchodilator, or injectable antibiotics.

• Any general danger sign or • Stridor in calm child or • SpO2 < 90%	SEVERE PNEUMONIA OR VERY SEVERE DISEASE

Note: Use Pulse Oximeter in all pneumonia cases, determine oxygen saturation and refer the child if SpO2 < 90%.

- 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 and the oxygen saturation should be ≥ 90%.
- Those who simply have a **NO PNEUMONIA: COUGH OR COLD** do not require antibiotics.

Such children may require a safe remedy to relieve cough. A child with cough and cold normally improves in one or two weeks. However, a child with chronic cough (more than 14 days) needs to be further assessed (and, if needed, referred) to exclude tuberculosis, asthma, whooping cough or another problem.

If the child has only wheezing, classify as WHEEZE and give nebulization with salbutamol for 5 days. Advise the mother on when to return immediately and follow-up in 5 days. If a child develops recurrent wheezing, refer to a higher center for Asthma assessment.

Case practice for the Cough or difficult breathing

CASE: *Sonam is an 18 months old girl. She weighs 11.5 kg. Her temperature is 37.5°C. The Health worker asked, "What are the child's problems?" The mother said "Sonam has been coughing for 6 days, and she is having difficulty breathing." This is the initial visit for this illness.*

The Health worker checked Sonam for general danger signs. The mother said that Sonam is able to drink. She has not been vomiting. She has not had convulsions during this illness. The Health worker asked, "Does Sonam seem unusually sleepy?" The mother said, "Yes." The Health worker clapped his hands. He asked the mother to shake the child. Sonam opened her eyes, but did not look around. The Health worker talked to Sonam, but she did not watch his face. She stared blankly and appeared not to notice what was going on around her.

The Health worker asked the mother to lift Sonam's shirt. He then counted the number of breaths the child took in a minute. He counted 41 breaths per minute. The Health worker did not see any chest indrawing. He did not hear the stridor. Oxygen saturation was 91%.

MANAGEMENT OF THE CHILDREN AGE 2 MONTHS UPTO 5 YEARS

Name: ***Sonam*** Age: ***18 months*** Gender: ***Female*** Weight: ***11.5 kg***
Temperature: ***37.5°C*** Date: ***09.7.2025***

ASK: What are the infant's problems? ***Cough, difficulty in breathing*** Initial visit? _✓
Follow up visit?

ASSESS (Circle all signs present) CLASSIFY

CHECK FOR GENERAL DANGER SIGNS • NOT ABLE TO DRINK OR FEED · • LETHARGIC OR UNCONSCIOUS • CONVULSIONS /CONVULSING NOW · • VOMITS EVERYTHING	**General danger sign present?** Yes ✓ No **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No • For how long? 6 Days • Count the breath in one minute **41** breaths. • Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheeze • Check oxygen saturation- <90% / ≥90%	*SEVERE PNEUMONIA* *OR* *VERY SEVERE DISEASE*

2.2.3.2 DIARRHOEA

Diarrhoea is the next symptom that should be routinely checked in every child brought to the clinic. Diarrhoea is defined as three or more loose or watery stools in a 24-hour period with recent change in consistency. Diarrhoea occurs when stools contain more water than normal. It is common in children, especially those between 6 months and 2 years of age. It is more common in babies under 6 months who are drinking cow's milk or infant formulas.

Mothers usually know when their children have diarrhoea. They may say that the child's stools are loose or watery. Mothers may use a local word for diarrhoea. Babies who are exclusively breastfed often have stools that are soft; this is not diarrhoea. The mother of a breastfed baby can recognize diarrhoea because the consistency or frequency of the stools is different than normal.

A child presenting with diarrhoea should first be assessed for general danger signs and then the child's mother or caregiver should be asked if the child has a cough or difficulty breathing. A child with diarrhoea may have three potentially lethal conditions: (1) acute watery diarrhoea (including cholera); (2) dysentery (bloody diarrhoea); and (3) persistent diarrhoea (diarrhoea that lasts 14 days or more).

Clinical Assessment

All children with diarrhoea should be checked to determine the duration of diarrhoea, if blood is present in the stool and if dehydration is present. A number of clinical signs are used to determine the level of dehydration:

Child's general condition. Assess if the child is lethargic or unconscious or is restless /irritable.

Sunken eyes. The eyes of a young infant who is dehydrated may look sunken. Decide if the eyes are sunken. If you think that the eyes are sunken, ask the mother if she thinks her infant's eyes look unusual. Her opinion helps you to confirm that the young infant's eyes are sunken.

Child's reaction when offered to drink. A child *is not able to drink* if s/he is not able to take fluid in his/her mouth and swallow it. For example, a child may not be able to drink because s/he is lethargic or unconscious. A child is drinking poorly if the child is weak and cannot drink without help. S/he may be able to swallow only if fluid is put in his/her mouth. A child has the sign drinking eagerly, thirsty if it is clear that the child wants to drink. Notice if the child reaches out for the cup or spoon when you offer him/her water. When the water is taken away, see if the child is unhappy because s/he wants to drink more. If the child takes a drink only with encouragement and does not want to drink more, s/he does not have the sign "drinking eagerly, thirsty."

Skin Pinch. Check elasticity of skin using the skin pinch test. When released, the skin pinch goes back either very slowly (longer than 2 seconds), or slowly (skin stays up even for a brief instant), or immediately. However, in a child with wasting (acute malnutrition), the skin may go back slowly even if the child is not dehydrated. In an overweight child, or a child with oedema, the skin may go back immediately even if the child is dehydrated.

After the child is assessed for dehydration, the caregiver of a child with diarrhoea should be asked how long the child has had diarrhoea and if there is blood in the stool. This will allow identification of children with persistent diarrhoea and dysentery.

Classification of Dehydration
Based on a combination of the above clinical signs, children presenting with diarrhoea are classified into three categories:

SEVERE DEHYDRATION: A child is severely dehydrated if he/she has any combination of two of the following signs:

- Is lethargic or unconscious
- Has sunken eyes
- Is not able to drink or is drinking poorly
- Skin pinch goes back very slowly

Patients have severe dehydration if they have a fluid deficit greater than 10 percent of their body weight.

Two of the following signs: • Is lethargic or unconscious • Has sunken eyes • Is not able to drink or is drinking poorly • Skin pinch goes back very slowly	SEVERE DEHYDRATION

Children who have **SEVERE DEHYDRATION** require immediate IV infusion according to the WHO treatment guidelines described in Plan C (see chart booklet pg 19).

SOME DEHYDRATION: Children who have any combination of the following two signs are included in this group:

- Restless/irritable
- Has Sunken eyes
- Drinks eagerly/thirsty
- Skin pinch goes back slowly

Children with some dehydration have a fluid deficit equaling 5 to 10 percent of their body weight.

Children who have **SOME DEHYDRATION** require active oral treatment with ORS solution according to WHO treatment guidelines described in Plan B (see Chart booklet page 18).

Patients with diarrhoea but no signs of dehydration may have a fluid deficit but less than 5 percent of their body weight. Although these children lack distinct signs of dehydration, they should be given more fluid than usual to prevent dehydration from developing as specified in WHO Treatment Plan A (see chart booklet).

Note: Antibiotics should not be used routinely for treatment of diarrhoea. Most diarrhoeal episodes are caused by agents for which antimicrobials are not effective, e.g., viruses.

Anti-diarrhoeal drugs - including anti-motility agents (e.g., loperamide, diphenoxylate, codeine, tincture of opium), adsorbents (e.g., kaolin), live bacterial cultures (e.g., *Lactobacillus*, *Streptococcus faecium*), and charcoal — ***do not*** provide practical benefits for children with acute diarrhoea, and some may have dangerous side effects. These drugs should never be given to children less than 5 years old.

If there are not enough signs to classify as some or severe dehydration in a child with diarrhoea, classify this as **NO DEHYDRATION** and manage as per WHO Plan A (see Chart book page 17). Advise mother when to return and follow up in 5 days.

Classification of Persistent Diarrhoea

Persistent diarrhoea is an episode of diarrhoea, with or without blood, which begins **acutely and lasts at least 14 days.** It accounts for upto 15 percent of all episodes of diarrhoea but is associated with 30 to 50 percent of deaths due to diarrhoea. Persistent diarrhoea is usually associated with weight loss and often with serious non-intestinal infections. Many children who develop persistent diarrhoea are malnourished, greatly increasing the risk of death. Persistent diarrhoea is uncommon in infants who are exclusively breast-fed and usually seen in top-fed babies.

All children with diarrhoea for 14 days or more should be further classified based on the presence or absence of any dehydration:

Those children with Dehydration are classified as **SEVERE PERSISTENT DIARRHOEA.**

Children with SEVERE PERSISTENT DIARRHOEA should be treated for dehydration before referral unless the child has another severe classification. The child should be referred to the hospital for further management.

PERSISTENT DIARRHOEA: Children with and no signs of dehydration can be safely managed in the outpatient clinic, at least initially.

Proper feeding is the most important aspect of treatment for most children with persistent diarrhoea. The goals of nutritional therapy are to: (a) temporarily reduce the amount of animal milk /formula (or lactose) in the diet; (b) provide a sufficient intake of energy, protein, vitamins and minerals to facilitate the repair process in the damaged gut mucosa and improve nutritional status; (c) avoid giving foods or drinks that may aggravate the diarrhoea; and (d) ensure adequate food intake during convalescence to correct any malnutrition.

Routine treatment of persistent diarrhoea with antimicrobials is not effective. Some children, however, have non-intestinal (or intestinal) infections that require specific antimicrobial therapy. The persistent diarrhoea of such children will not improve until these infections are diagnosed and treated correctly.

Classification of Dysentery

The mother or caregiver of a child with diarrhoea should be asked if there is blood in the stool.

A child is classified as having **DYSENTERY** if the mother or caregiver reports visible blood in the child's stool.

It is not necessary to examine the stool or perform laboratory tests to diagnose dysentery. Stool culture to detect pathogenic bacteria is rarely possible. Moreover,

at least two days are required to obtain the results of a culture. Although "dysentery" is often described as a syndrome of bloody diarrhoea with fever, abdominal cramps, rectal pain and mucoid stools, these features do not always accompany bloody diarrhoea, nor do they necessarily define its etiology or determine appropriate treatment.

Bloody diarrhoea in young children is usually a sign of invasive enteric infection that carries a substantial risk of serious morbidity and death.

Dysentery is especially severe in infants and in children who are undernourished, who develop clinically evident dehydration during their illness, or who are not breast-fed. It also has a more harmful effect on nutritional status than acute watery diarrhoea. Dysentery occurs with increased frequency and severity in children who have measles or have had measles in the preceding month, and diarrhoeal episodes that begin with dysentery are more likely to become persistent than those that start without blood in the stool.

All children with dysentery (bloody diarrhoea) should be treated promptly with an antibiotic effective against Shigella because: (a) bloody diarrhoea in children under 5 is caused much more frequently by Shigella than by any other pathogen; (b) shigellosis is more likely than other causes of diarrhoea to result in complications and death if effective antimicrobial therapy is not begun promptly; and (c) early treatment of shigellosis with an effective antibiotic substantially reduces the risk of severe morbidity or death.

Case practice for the SICK CHILD AGE 2 MONTHS UPTO 5 YEARS with Diarrhoea:
CASE: *Sonam is 18 months old girl. She weighs 11.5 kg. Her temperature is 37.5°C. The Health worker asked, "What are the child's problems?" The mother said "Sonam has been coughing for 6 days, and she is having difficulty in breathing." This is the initial visit for this illness.*

The Health worker checked Sonam for general danger signs. The mother said that Sonam is able to drink. She has not been vomiting. She has not had convulsions during this illness.

The Health worker asked, "Does Sonam seem unusually sleepy?" The mother said, "Yes." The Health worker clapped his hands. He asked the mother to shake the child. Sonam opened her eyes, but did not look around. The Health worker talked to Sonam, but she did not watch his face. She stared blankly and appeared not to notice what was going on around her.

The Health worker asked the mother to lift Sonam's shirt. He then counted the number of breaths the child took in a minute. He counted 41 breaths per minute. The Health worker did not see any chest indrawing. He did not hear the stridor. Oxygen saturation is 91%.

The Health worker asked, "Does the child have diarrhoea?" The mother said, "Yes, for 3 days." There was no blood in the stool. Sonam's eyes looked sunken. The Health worker asked, "Do you notice anything different about Sonam's eyes?" The mother said, "Yes." He gave mother some clean water in a cup and asked her to offer it to Sonam. When offered, Sonam could not drink the water. When the skin of Sonam's abdomen pinched, it went back slowly.

MANAGEMENT OF THE SICK CHILDREN AGE 2 MONTHS UPTO 5 YEARS

Name: ***Sonam*** Age: ***18 months*** Gender: ***Female*** Weight: ***11.5 kg***
Temperature: ***37.5°C*** Date: ***28.09.2025***

ASK: What are the infant's problems? ***Cough, trouble breathing*** Initial visit? _✓
Follow up visit?

ASSESS (Circle all signs present) CLASSIFY

CHECK FOR GENERAL DANGER SIGNS • NOT ABLE TO DRINK OR BREASTFEED • LETHARGIC OR UNCONSCIOUS • CONVULSIONS /CONVULSING NOW • VOMITS EVERYTHING	**General danger sign present?** Yes✓ No **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes✓ No • For how long? 6 Days • Count the breath in one minute breaths • Fast breathing? • Look for chest indrawing • Look and listen for stridor • Look and listen for wheeze • Check oxygen saturation- <90% / ≥90%	***Severe Pneumonia*** ***or*** ***Very Severe Disease***

DOES THE CHILD HAVE DIARRHOEA? Yes_ ✓_No For how long? 3 Days · Look at the child's general condition. Is the child: • Is there blood in the stool? • Lethargic or unconscious? • Restless and irritable? • Look for sunken eyes Offer the child fluid. Is the child: • Not able to drink or drinking poorly? • Drinking eagerly, thirsty? • Pinch the skin of the abdomen. Does it go back: » Slowly? » Very slowly (longer than 2 seconds)?	***Severe Dehydration***

2.2.3.3 DOES THE CHILD HAVE FEVER

All sick children should be checked for fever. Fever is a very common condition and is often the main reason for bringing children to the health centre. It may be caused by minor infections, but may also be the most obvious sign of a life-threatening illness, particularly malaria (especially lethal malaria *P. falciparum*), or other severe infections, including meningitis, typhoid fever, or measles. When diagnostic capacity is limited, it is important first to identify those children who need urgent referral with appropriate pre-referral treatment (antimalarial or antibacterial).

Clinical Assessment

Body temperature should be checked in all sick children brought to an outpatient clinic. Children are considered to have fever if their axillary body temperature is above 37.5°C. In the absence of a thermometer, children are considered to have fever if they feel hot. Fever also may be recognized based on a history of fever.
A child presenting with fever should be assessed for:

Duration of fever. Most fevers due to viral illnesses go away within a few days. A fever that has been present every day for more than seven days can mean that the child has a more severe disease such as typhoid fever. If the fever has been present for more than seven days, it is important to check whether the fever has been present every day.

Stiff neck. A stiff neck may be a sign of meningitis or another very severe febrile disease. If the child is conscious and alert, check stiffness by tickling the feet, asking the child to bend his/her neck to look down or by very gently bending the child's head forward. It should move freely.

Runny nose. When a child with fever and a runny nose then the child's fever is probably due to a common cold.

Measles. Considering the high risk of complications and death due to measles, children with fever should be assessed for signs of current or previous measles (within the last three months). Measles deaths occur from pneumonia and laryngotracheitis, diarrhoea, and a few from encephalitis. Other complications (usually non-fatal) include conjunctivitis, otitis media, and mouth ulcers. Significant disability can result from measles including blindness, severe malnutrition, chronic lung disease (bronchiectasis and recurrent infection), and neurologic dysfunction.

In measles, a red rash begins behind the ears and on the neck. It spreads to the face. During the next day, the rash spreads to the rest of the body, arms and legs. After 4 to 5 days, the rash starts to fade and the skin may peel. Some children with severe infection may have more rash spread over more of the body. The rash becomes more discolored (dark brown or blackish), and there is more peeling of the skin. A measles rash does not have vesicles (blisters) or pustules. The rash does not itch. Do not confuse measles with other common childhood rashes such as chicken pox, scabies or heat rash. (The chicken pox rash is a generalized rash with vesicles. Scabies occurs on the hands, feet, ankles, elbows, buttocks and axilla. It also itches. Heat rash can be a generalized rash with small bumps and vesicles that itch. A child with heat rash is not sick). You can recognize measles more easily during times when other cases of measles are occurring in the community.

Detection of acute (current) measles is based on fever with a generalized rash, plus at least one of the following signs: red eyes, runny nose, or cough. The mother should be asked about the occurrence of measles within the last three months (recent measles).

If the child has measles currently or within the last three months, s/he should be assessed for possible complications. Measles damages the epithelial surfaces and the immune system, and lowers vitamin A levels. This results in increased susceptibility to infections caused by pneumococcus, gram- negative bacteria, and adenovirus. Recrudescence of herpes virus, Candida, and malaria can also occur during measles infection. It is important to check every child with recent or current measles for possible mouth or eye complications. Clouding of the cornea is a dangerous eye complication. It may be due to vitamin A deficiency that has been

made worse by measles. If not treated, cornea can ulcerate and cause blindness. An infant with corneal clouding needs urgent treatment with vitamin A. Other possible complications such as pneumonia, stridor in a calm child, diarrhoea, malnutrition and ear infection are assessed in relevant sections of these guidelines.

Before classifying fever, also check for other obvious causes of fever (e.g. ear pain, burn, abscess, etc.).

Classification of Fever

All children with fever and any general danger sign or stiff neck are classified as having **VERY SEVERE FEBRILE DISEASE** and should be urgently referred to a hospital after pre-referral treatment with antibiotics.

• Any general danger sign or • Stiff neck	**VERY SEVERE FEBRILE DISEASE**

Decide the malaria risk as LOW, POTENTIAL or NO based on the National Guideline for Diagnosis and Treatment of Malaria in Bhutan 6th edition 2024. If there is NO Malaria risk, ask for travel history to Low or Potential risk area within the last 30 days. Do a malaria Rapid Diagnostic Test (RDT) if there is NO Very Severe Febrile Disease

Classification in following conditions:

- In LOW/POTENTIAL Malaria risk, if no obvious cause of fever is present.
- Travel history to Low or Potential risk area within the last 30 days is present.

If RDT is positive, Classify as MALARIA and give the first dose of recommended antimalarial drugs as per the National Guideline for Diagnosis and Treatment of Malaria in Bhutan 6th edition 2024 and refer to the hospital for further management.

If Malaria RDT is negative and other causes of fever are present, Classify as **FEVER: NO MALARIA.**

If there is No Malaria risk and No Travel History to risk area:

- But has any general danger sign or stiff neck, classify as **SEVERE FEBRILE DISEASE** and do **URGENT REFERRAL** after following the pre-referral treatment.
- If there are no general danger sign or stiff neck, classify as FEVER

If the child has measles now or within the last three months, look for mouth ulcers and see if they are deep and extensive.

Then look for pus draining from the eye and clouding of the cornea. Then classify as follows:

- **SEVERE COMPLICATED MEASLES** if there are any general danger signs or clouding of cornea or deep extensive mouth ulcers. This needs urgent referral along with the pre-referral treatment.
- **MEASLES WITH EYE OR MOUTH COMPLICATIONS,** if there is pus draining from eye or mouth ulcers (Not deep and extensive).
- **MEASLES** if measles now or within the last three months.

Identify the treatment as per the IMNCI Chart booklet for each classification.

Case practice for the main symptom fever

CASE: *Sonam is 18 months old girl. She weighs 11.5 kg. Her temperature is 37.5°C. The Health worker asked, "What are the child's problems?" The mother said "Sonam has been coughing for 6 days, and she is having difficulty in breathing." This is the initial visit for this illness.*

The Health worker checked Sonam for general danger signs. The mother said that Sonam is able to drink. She has not been vomiting. She has not had convulsions during this illness.

The Health worker asked, "Does Sonam seem unusually sleepy?" The mother said, "Yes." The Health worker clapped his hands. He asked the mother to shake the child. Sonam opened her eyes, but did not look around. The Health worker talked to Sonam, but she did not watch his face. She stared blankly and appeared not to notice what was going on around her.

The Health worker asked the mother to lift Sonam's shirt. He then counted the number of breaths the child took in a minute. He counted 41 breaths per minute. The Health worker did not see any chest indrawing. He did not hear the stridor. Oxygen saturation is 91%.

The Health worker asked, "Does the child have diarrhoea?" The mother said, "Yes, for 3 days." There was no blood in the stool. Sonam's eyes looked sunken. The Health worker asked, "Do you notice anything different about Sonam's eyes?" The mother said, "Yes." He gave mother some clean water in a cup and asked her to offer it to Sonam. When offered, Sonam could not drink the water. When the skin of Sonam's abdomen pinched, it went back slowly.

Because Sonam's temperature is 37.50C and she feels hot, the Health worker assessed Sonam further for signs related to fever. The mother said Sonam's fever began 2 days ago. This is not a Pf predominant area. RDT for P falciparum/ P vivax

is negative. This is not a dengue season. Sonam has not had measles within the last 3 months, and there are no signs suggesting measles. She does not have a stiff neck.

2.2.3.4 DOES THE CHILD HAVE AN EAR PROBLEMS?

Ear problems are the next condition that should be checked in all children brought to the outpatient health facility. A child with an ear problem may have an ear infection. When a child has an ear infection, pus collects behind the eardrum and causes pain and often fever. If the infection is not treated, the eardrum may burst. The pus discharges, and the child feels less pain. The fever and other symptoms may stop, but the child suffers from poor hearing because the eardrum has a hole in it. Usually, the eardrum heals by itself. At other times the discharge continues, the eardrum does not heal and the child becomes deaf in that ear.

Sometimes the infection can spread from the ear to the bone behind the ear (the mastoid) causing mastoiditis. Infection can also spread from the ear to the brain causing meningitis. These are severe diseases. They need urgent attention and referral.

Ear infections rarely cause death. However, they cause many days of illness in children. Ear infections are the main cause of deafness in developing countries, and deafness causes learning problems in school.

A child presenting with an ear problem should first be assessed for general danger signs, cough or difficult breathing, diarrhoea and fever. A child with an ear problem may have an ear infection.

Clinical Assessment
Look for the following simple clinical signs:
Tender swelling behind the ear. The most serious complication of an ear infection is a deep infection in the mastoid bone. It usually manifests with tender swelling behind one of the child's ears. In infants, this tender swelling also may be above the ear. When both tenderness and swelling are present, the sign is considered positive and should not be mistaken for swollen lymph nodes.

Ear pain. In the early stages of acute otitis, a child may have ear pain, which usually causes the child to become irritable and rub the ear frequently.

Ear discharge or pus. This is another important sign of an ear infection. When a mother reports an ear discharge, the health care provider should check for pus drainage from the ears and find out how long the discharge has been present.
Additionally, you may examine the child's ears using an otoscope, if available.

Classification of Ear Problems

Based on the simple clinical signs above, the child's condition can be classified in the following ways:

- Children presenting with tenderness and swelling behind the ear (mastoid bone) are classified as having **MASTOIDITIS** and should be referred to the hospital for treatment. Before referral, these children first should receive a dose of antibiotic and a single dose of paracetamol for pain.
- Children with ear pain or ear discharge (or pus) for less than 14 days are classified as having **ACUTE EAR INFECTION** and should be treated for five days of oral amoxicillin.
- If there is ear discharge (or pus) for more than 14 days, the child's classification is **CHRONIC EAR INFECTION.** Dry the ear by wicking. Give topical antibiotics for two weeks.
- If no signs of ear infection are found, children are classified as having **NO EAR INFECTION** and do not require any specific treatment.

Case practice for the main symptom; Does the child have an ear problem?

CASE: *Meto is a 3 years old girl. She weighs 13 kg. Her temperature is 37.50C. Her mother came to the clinic because Meto has felt hot for 2 days. She was crying last night and complained that her ear was hurting. The Health worker checked and found no general danger signs. Meto does not have cough or difficulty breathing. She does not have diarrhoea. She is not residing in the P. falciparum predominant area. There is no stiff neck or any identified bacterial cause of fever. RDT for malaria is pf /pv is negative. Her fever was classified as FEVER MALARIA UNLIKELY.*

Next the Health worker asked about Meto's ear problem. The mother said she is sure Meto has ear pain. The child cried most of the night because her ear hurt. There has not been an ear discharge. The Health worker did not see any pus draining from the child's ear. She felt behind the child's ears and found no tender swelling.

MANAGEMENT OF THE SICK CHILDREN 2 MONTHS UPTO 5 YEARS

Name: ***Meto*** Age: ***3 years*** Gender: ***Female*** Weight: ***13 kg*** Temperature: ***37.5°C***
Date: ***10.02.2023***

ASK: What are the infant's problems? ***Fever and ear pain*** Initial visit? _
Follow up visit?_

DOES THE CHILD HAVE EAR PROBLEM • Is there ear pain? • Is there ear discharge? If yes, for how long _Days	• Yes _ No • Look for pus draining from the ear Feel for tender swelling behind the ear	***Acute Ear Infection***

2.2.4 THEN CHECK FOR ACUTE MALNUTRITION

The mother may bring her child to the clinic because the child has an acute illness but the child may also be malnourished. The child may not have specific complaints that point to malnutrition. A sick child can be malnourished, but you or the child's family may not notice the problem unless they are assessed for malnutrition. A child with malnutrition has a higher risk of many types of disease and death. Even children with mild and moderate malnutrition have an increased risk of death.

Identifying children with malnutrition and treating them can help in preventing many severe diseases and death. Some malnutrition cases can be treated at home while children with medical complications and /or poor appetite need to be managed in a hospital. Children with severe acute malnutrition and medical complications and/ or poor appetite need referral to hospital for systemic antibiotic therapy, treatment and prevention of complications, special feeding or specific treatment of a disease contributing to malnutrition (such as tuberculosis).

Hence, after assessing for general danger signs and the four main symptoms, all children should be assessed for malnutrition. There are two main reasons for routine assessment of nutritional status in sick children: (1) to identify children with severe acute malnutrition who are at increased risk of mortality and need urgent referral to provide active treatment; and (2) to identify children with moderate acute malnutrition resulting from deficits in dietary intake or repeated episodes of infection and who may benefit from nutritional counseling and resolution of feeding problems.

Clinical Assessment

Nutritional status should be assessed by measuring weight, length /height and determine weight-for- length standard deviation (WFL SD) score and looking for bilateral pitting oedema.

Weight Measurement

Weight is a vital anthropometric measurement and should be recorded for all children during all health contacts.

Measurement of weight by digital weighing machine

Remove the child's clothes to the minimal, but keep the child warm with a blanket or cloth while carrying to the scale.
Turn on the scale by pressing the START button (or follow instructions for that scale).
Adjust the scale to zero.
Place the child gently in the center of the pan.
Wait for the child to settle and the weight to stabilize.
Measure weight to the nearest 0.01 kg (10g) or as precisely as possible & Record immediately.
Wrap the child immediately to re-warm and prevent hypothermia.

Measurement of length/height

Depending on a child's age and ability to stand, measure the child's length or height. A child's length is measured lying down (recumbent). Height is measured standing upright.

You have to keep the following points into consideration while deciding whether to measure child's height or length:

If a child is less than 2 years old (less than 87 cm), measure recumbent length.

If the child is aged 2 years (more than 87cm) or older and able to stand, measure standing height.

Measure the length (if child is less than 2 years of age)

Infantometer (with a fixed head piece and horizontal backboard, and an adjustable foot piece.)

- Place the Infantometer on a hard, flat, level surface, such as the floor or a solid table.
- Remove child's shoes, socks, hair braids that may interfere with length measurement.
- One health care worker (HCW) or mother should stand or kneel behind the headboard and position the child lying on his back on the measuring board, supporting the head and placing it against the headboard.
- Position the crown of the head against the headboard, compressing the hair.
- Hold the head with two hands and tilt upwards until the eyes look straight up, and the line of sight is perpendicular to the measuring board.
- Check that the child lies straight along the centre line of the measuring board and does not change position.
- The HCW should stand alongside the measuring board and with the help of mother/caregiver, support the child's trunk as the child is positioned on the board.
- Place one hand on the shins or knees and press gently but firmly. Straighten the knees as much as possible without hurting the child with the other hand; place the foot piece firmly against the feet.
- Soles of the feet should be flat on the foot piece, toes pointing up. If the child curls the toes and prevents the foot piece from touching the soles, scratch the soles gently and slide in the foot piece, when the child straightens the toes.
- Measure length to the last completed 0.1 cm and record it immediately on MCH handbook or recording form. **The child should be lifted off the board.**

Measure the Height (if child is 2 years or more of age or more than 87 cm)

- Place the stadiometer on a hard, flat level surface against a wall. Make sure it is stable.
- Remove child shoes, socks, hair braids that may interfere with height measurement.
- Ask the mother/caregiver to bring the child on the stadiometer and to kneel in front of the child so that the child will look forward to the mother.
- Make sure the child's arms hang down at his/her sides and the shoulders are level.
- Mother or HCW should kneel or crouch near the child's feet and help the child stand with the back of the head, shoulder blades, buttocks, calves and heels touching the vertical board.
- Prevent children from standing on their toes.
- If necessary, gently push the child's tummy to help him stand straight to full height.
- The HCW should bend to the level of the child's face and position the head so that the child is looking straight ahead (line of sight is parallel to the base of the board).
- Place your thumb and forefinger over the child's chin to help keep the head in an upright position.
- With the other hand, pull down the head board to rest firmly on top of the head and compress hair.
- Measure height to the last completed 0.1 cm and record it immediately on MCH handbook or recording form.
- Help the child to get off the board.

After measurement of the child's weight, height/length, the next step is to compute the Z-score or SD score using the measured values.

Determination of WFH/L Z-score using weight and height/length measurements

- First ensure to have the correct chart for age and sex.
- Locate the child's length/height on the X -Axis and the weight on the Y-Axis.
- Identify the intersection of the two and determine within which range of the Standard Deviation (SD) the intersection point falls i.e < -3 SD, or ≥ -3 and < -2 SD or ≥ -2 SD in the Z-score chart (See chart booklet pg 59 to 64).

Oedema of both feet

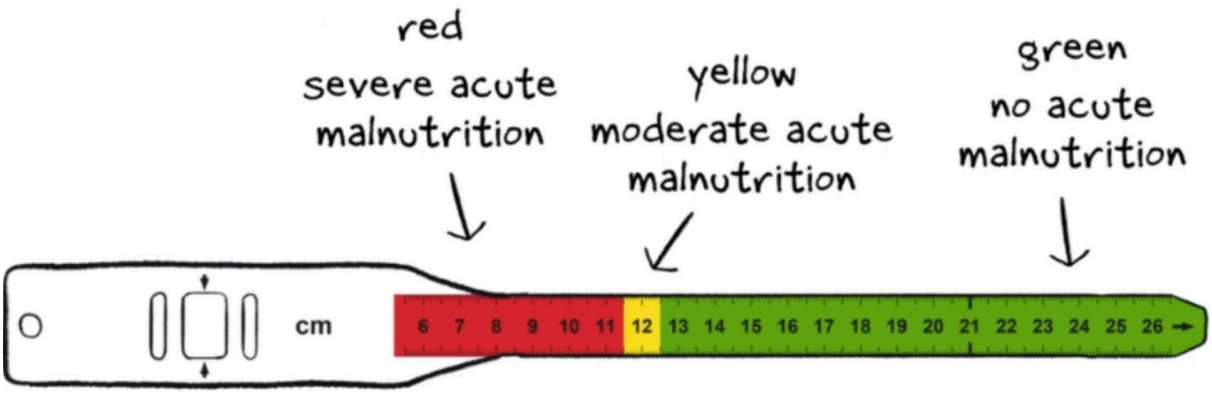
The presence of oedema (accumulation of fluid) in both feet may signal oedematous malnutrition when there is no other known cause. Children with oedema of both feet may have other diseases like nephrotic syndrome, heart diseases etc. However, referral is required in all cases to establish a diagnosis.

Oedema typically starts in the feet and ankles. Pitting edema is a key sign – when you press gently with your thumb for a few seconds, an indentation remains. It can progress upwards to the legs, hands, face, and even the lower back (sacral region).

Measure MUAC (For children 6 months or older)

Mid Upper Arm Circumference (MUAC) is the measurement around the middle of the child's left upper arm. It is an important indicator of acute malnutrition in children aged 6 months or older.

The MUAC strip is color coded (green, yellow, and red) and has a window and a slit as shown in the picture below.



Source: https://shorturl.at/iou6r

The first is the slit where you will insert the MUAC strip. The next is the window where you will read the child's MUAC in cm. Children with a MUAC less than 11.5 cm have severe acute malnutrition. This measurement is red on the color coded MUAC tape.

The steps to measure the child's MUAC.

Source: https://shorturl.at/JPVBN

- Place tip of MUAC tape (corresponding to 0 mark on ➔ ➔ MUAC tape) at the upper mark i.e. top of the shoulder and stretch tape upto tip behind the bent elbow (olecranon process) .
- Decide total distance from upper mark to lower mark.
- Now decide and mark the mid-point of the upper arm with a sketch pen.
- Now tell the child to drop the elbow to the side of the body and then take the measurement.
- After wrapping the tape, insert the end of the tape from the slit given.
- Tape tension should not be too tight or loose.
- Immediately record the reading.

If Weight for Height/Length Z scores is < -3 SD or MUAC is less than 11.5 cm, then check for presence of any medical complications:

- Any general danger signs
- Any severe classification
- Pneumonia with chest indrawing.

If there are no medical complications present, assess the breastfeeding and see if the child has a breastfeeding problem.

CLASSIFICATION OF NUTRITIONAL STATUS

Using a combination of anthropometric measurements, the clinical sign oedema, and presence of medical complications/breast feeding problem, children can be classified in one of the following categories:

Severe Acute Malnutrition (SAM) – If child has weight-for-height/length Z-score < -3 SD or MUAC less than 11.5 cm (115mm) or has oedema of both feet, the child is classified as having **SEVERE ACUTE MALNUTRITION.**

Any children with SAM and any of the following: Medical complications present (any general danger signs, any severe classification or pneumonia with chest indrawing) or Breast feeding problem, they are classified as **SEVERE ACUTE MALNUTRITION WITH MEDICAL COMPLICATION.**

• Oedema of both feet OR • WFH/L Z-score is <-3 SD OR • MUAC less than 11.5 cm AND • Any one of the following: » Medical complication present » Breastfeeding problem	**SEVERE ACUTE MALNUTRITION WITH MEDICAL COMPLICATION**

Children classified as having SEVERE ACUTE MALNUTRITION (SAM) WITH MEDICAL COMPLICATION are at high risk of death from pneumonia, diarrhoea, measles and other severe diseases. These children need urgent **referral to hospital** where their treatment can be carefully monitored. Before the child leaves for hospital you should give the first dose of ampicillin and gentamicin, treat to prevent low blood sugar and keep the child warm.

If the child has SAM with No medical complications, classify as **SEVERE ACUTE MALNUTRITION WITHOUT MEDICAL COMPLICATIONS.** These children need referral to higher centers but they can be sent on OPD basis. In the hospital, they receive special feeding, antibiotics, micronutrient supplementation

The Child is classified as **MODERATE ACUTE MALNUTRITION** if the child's weight-for- length/height is ≥ -3 SD and < -2 SD OR MUAC between 11.5 cm upto 12.4 cm. Assess the child's feeding and counsel the mother on the feeding recommendations as per appropriate age and proceed as per the IMNCI Chart book.

• WFH/L Z-score is ≥ -3 and < -2 SD OR • MUAC 11.5 cm upto 12.4 cm	**MODERATE ACUTE MALNUTRITION**

The child is classified as **NO ACUTE MALNUTRITION** if the child's weight-for-height/ length is ≥ - 2 SD or MUAC is 12.5cm or more. If the child is less than 2 years of age or has malnutrition, assess the child's feeding. Children less than 2 years of age have a higher risk of feeding problems and malnutrition than older children. Counsel the caregiver about feeding and development supportive care for her child according to the COUNSEL section in the Chartbooklet.

Case practice for Acute Malnutrition

CASE: *Pema is a 9 months old male. He weighs 7 kg. His temperature is 36.8°C. He is at the clinic today because his mother and father are concerned about his diarrhoea. He does not have any general danger signs. He does not have a cough or difficulty breathing. He has had diarrhoea for 5 days, and is classified as diarrhoea with SOME DEHYDRATION. He does not have a fever. He does not have an ear problem.*

Next, the Health worker checked for signs of malnutrition. His measured weight is 5 kg and length 68 cm. He has oedema on both feet. The Health worker uses the Weight for length chart to determine Weight for Length SD score (Do it yourself). His measured MUAC is 10.0 cm.

2.2.5 THEN CHECK FOR ANEMIA

All children also should be checked for anemia. The most common cause of anemia in young children in developing countries is nutritional or because of parasitic or helminthic infections. However, there may be other more serious causes of anemia such as haemolytic anemia, aplastic anemia or leukaemia.

Clinical assessment

Palmar pallor. To see if the child has palmar pallor, look at the skin of the child's palm. Hold the child's palm open by grasping it gently from the side. Do not stretch the fingers backwards. This may cause pallor by blocking the blood supply. Compare the colour of the child's palm with your own palm and with the palms of other children. If the skin of the child's palm is pale, the child has some palmar pallor. If the skin of the palm is very pale or so pale that it looks paper white, the child has severe palmar pallor.

Although this clinical sign is less specific than many other clinical signs included in the IMNCI guidelines, it can allow health care providers to identify sick children with severe anemia. Where feasible, Hb estimation should also be done if there is palmar pallor.

CLASSIFICATION OF ANEMIA
Children can be classified in one of the following categories:

Children with **SEVERE ANEMIA** who have severe palmar pallor or Haemoglobin (Hb) level of < 7 g/dL, need urgent referral to a hospital for blood transfusion.

Children with some palmar pallor and Hb level between 7 to 10.9 g/dL are classified as having ANEMIA and should be assessed for feeding problems. This assessment should identify common, important problems with feeding that can be corrected if the caregiver is provided effective counselling and acceptable feeding recommendations based on the child's age.They should be treated with oral iron. During treatment, the child should be seen every two weeks (follow-up), at which time an additional 14 days of iron treatment is given. If there is no improvement in pallor after two months, the child should be referred to the hospital for further assessment. Iron is not given to children with severe malnutrition with medical complications till they are stabilized.

Case practice for then check for Anaemia
CASE: *Pema is 9 months old male. He weighs 7 kg. His temperature is 36.8°C. He is at the clinic today because his mother and father are concerned about his diarrhoea. He does not have any general danger signs. He does not have cough or dificult breathing. He has had diarrhoea for 5 days, and is classified as diarrhoea with SOME DEHYDRATION. He does not have fever. He does not have an ear problem. Pema does not have signs of severe acute malnutrition or very low weight for age.*

Next, the Health worker checked for signs of anemia and found some pallor. His estimated haemoglobin was found to be 8 g/dL.

2.2.6 THEN CHECK FOR POSSIBLE TUBERCULOSIS (TB)

As per the Global TB Report 2023, 10.6 million people fell ill with TB globally, and 1.3 million died due to TB. Children and young adolescents (aged below 15 years) represent about 11% of all people with tuberculosis (TB) globally. This means that 1.1 million children become ill with TB every year with almost half of them below five years of age. National TB programmes (NTPs) only notify less than half of these children, meaning that there is a large case detection gap.Children can present with TB at any age but it is commonest in the under 5-age group and during adolescence.

Assess the following signs and symptoms when checking for possible Tuberculosis in children 2 months to 5 years of age:

- Cough ≥ 2 weeks
- Unexplained fever ≥ 2 weeks
- Not gaining weight in infant
- Unexplained weight loss inspite of adequate nutrition
- History of contact with Pulmonary Tuberculosis in the same household.
- Painless enlarged lymph nodes.
- Unexplained ascites
- Moderate Acute Malnutrition (WFH/L ≥ -3 and < -2 SD OR MUAC 11. 5 cm upto 12.4 cm)

If any of the above signs or symptoms are present, classify as POSSIBLE TB and refer for TB assessment.

2.2.7 ASSESSING THE CHILD'S FEEDING

All children less than 2 years old and all children classified as ANEMIA OR MODERATE ACUTE MALNUTRITION need to be assessed for feeding.

All children under 2 years of age should have a feeding assessment,even if they have a normal Z-score.

Feeding assessment includes questioning the mother or caregiver about:
(1) breastfeeding frequency and night feeds; (2) types of complementary foods or fluids, frequency of feeding and whether feeding is active; and (3) feeding patterns during the current illness. The mother or caregiver should be given appropriate advice to overcome any feeding problems found (for more details, refer to the section on counseling the mother or caregiver in the chartbook).

However, if the mother has already received many treatment instructions and is overwhelmed, you may delay assessing feeding and counseling the mother about feeding until a later visit. Even though you may feel hurried, it is important to take time to counsel the mother carefully and completely. When counseling a mother about feeding, you will use the same communication skills described earlier.

For example, you will ask the mother questions to determine how she is feeding the child. You will listen carefully to the mother's answers so that you can make your advice relevant to her. You will praise the mother for appropriate practices and advise her about any practices that need to be changed. You will use simple

language that the mother can understand. Finally, you will ask checking questions to ensure that the mother knows how to care for her child at home.

To assess feeding, ask the mother the following questions. These questions are at the bottom of the sick child case recording form. These questions will help you find out about the child's usual feeding and feeding during this illness:

- Do you breastfeed your child?
- If yes: how many times during the day?
- Do you also breastfeed during the night?
- Does the child take any other food or fluids? If yes:
- What food or fluids?
- How many times per day? What do you use to feed the child?
- How large are servings? Does the child receive his own serving?
- Who feeds the child and how?
- During this illness, has the child's feeding changed? If yes, how?

Listen for correct feeding practices as well as those that need to be changed. As you listen to the mother, you may look at the Feeding Recommendations During Sickness and Health that are appropriate for the child's age (see the chart book page 29 to 32). If the answer is unclear, ask another question. For example, if the mother of a very-low-weight child says that servings are "large enough," you could ask, "When the child has eaten, does he still want more?"

Identify feeding problems

It is important to complete the assessment of feeding and identify all the feeding problems before giving advice. Based on the mother's answers to the feeding questions, identify any differences between the child's actual feeding and the feeding recommendations. These differences are problems. Some examples of feeding problems are listed below.

Examples of Feeding Problems

CHILD'S ACTUAL FEEDING	RECOMMENDED FEEDING
A 3-month-old is given sugar water as well as breast milk.	A 3-month-old should be given only breast milk and no other food or fluid.
A 2-year-old fed only 3 times each day.	A 2-year-old should receive 2 extra feedings between meals, as well as 3 meals a day.
An 8-month-old is still exclusively breastfed.	A breastfed 8-month-old should also be given adequate servings of a nutritious complementary food 3 times a day.

In addition to differences from the feeding recommendations, some other problems may become apparent from the mother's answers. Other common feeding problems are:

Difficulty breastfeeding
The mother may mention that breastfeeding is uncomfortable for her, or that her child seems to have difficulty breastfeeding. If so, you will need to assess breastfeeding as described on the YOUNG INFANT chart. You may find that the child's positioning and attachment could be improved.

Use of feeding bottle
Feeding bottles should not be used. They are often dirty, and germs easily grow in them. Fluids tend to be left in them and soon become spoiled or sour. The child may drink the spoiled fluid and become ill. Also, sucking on a bottle may interfere with the child's desire to breastfeed.

Lack of active feeding
Young children often need to be encouraged and assisted to eat. This is especially true if a child has very low weight. If a young child is left to feed himself, or if he has to compete with siblings for food, he may not get enough to eat. By asking, "Who feeds the child and how?" you should be able to find out if the child is actively being encouraged to eat.

Not feeding well during illness
The child may be eating much less, or eating different foods during illness. Children often lose their appetite during illness. However, they should still be encouraged to eat the types of food recommended for their age, as often as recommended, even if they do not eat much. They should be offered their favorite nutritious foods, if possible, to encourage eating.

2.2.8 CHECKING IMMUNIZATION, VITAMIN A AND DEWORMING STATUS

The immunization status of every sick child brought to a health facility should be checked. Minor illness is not a contraindication to immunization. In practice, sick children may be even more in need of protection provided by immunization than well children. A vaccine's ability to protect itself is not diminished in sick children.

IMMUNIZATION SCHEDULE FOR UNDER FIVE CHILDREN:

AGE	VACCINE			
Birth	BCG*	OPV-0	Hep B-0	**VITAMIN A SUPPLEMENTATION** Give every child a dose of Vitamin A every six months from the age of 6 months. Record the dose on the MCH Handbook. **ROUTINE DE-WORMING** Give every child albendazole every 6 months from the age of 15 months. Record the dose on the MCH Handbook.
6 weeks	Penta-I	OPV-1	PCV-1	
10 weeks	Penta-2	OPV-2	PCV-2	
14 weeks	Penta-3	OPV-3	IPV-1	
8 months	-	-	IPV-2	
9 months	MMR-1	-	PCV-3	
24 months	MMR-2	DTP	-	

After checking immunization status, determine if the child needs vitamin A supplementation and Deworming tablets.

2.2.9 ASSESS OTHER PROBLEMS

The IMNCI clinical guidelines focus on five main symptoms. In addition, the assessment steps within each main symptom take into account several other common problems. For example, conditions such as meningitis, sepsis, tuberculosis, conjunctivitis, and different causes of fever such as ear infection and sore throat are routinely assessed within the IMNCI case management process. If the guidelines are correctly applied, children with these conditions will receive presumptive treatment or urgent referral.

Nevertheless, health care providers still need to consider other causes of severe or acute illness. It is important to address the child's other complaints and to ask questions about the caregiver's health (usually, the mother's).

2.3 TREATMENT PROCEDURES FOR SICK CHILDREN AGE 2 MONTHS UPTO 5 YEARS

IMNCI classifications are not necessarily specific diagnoses, but they indicate what action needs to be taken. In the IMNCI guidelines, all classifications are colour coded: pink calls for hospital referral or admission, yellow for initiation of treatment, and green means that the child can be sent home with careful advice on when to return. After completion of the assessment and classification procedure, the next step is to identify treatment.

2.3.1 REFERRAL OF CHILDREN AGE 2 MONTHS UPTO 5 YEARS

All infants and children with a severe classification (pink) are referred to a hospital as soon as assessment is completed and necessary pre-referral treatment is administered.

Note: If a child only has severe dehydration and no other severe classification, and IV access

is available, an attempt should be made to rehydrate the sick child.
Successful referral of severely ill children to the hospital depends on effective counselling of the caregiver. If the caregiver accepts a referral, s/he should be given a short, clear referral note, and should get information on what to do during referral transport, particularly if the hospital is distant.

Non-urgent treatments, e.g., wicking a draining ear or providing oral iron treatment, should be deferred to avoid delaying referral or confusing the caregiver.

If a child does not need urgent referral, check to see if the child needs ***non-urgent referral*** for further assessment; for example, for a cough that has lasted more than 14 days, or for fever that has lasted seven days or more. These referrals are not as urgent, and other necessary treatments may be done before transporting for referral.

2.3.2 TREATMENT IN OUTPATIENT CLINICS

The treatment associated with each non-referral classification (yellow and green) is clearly spelled out in the IMNCI guidelines chart booklet. Treatment uses a minimum of affordable essential drugs.

2.3.2.1 ORAL DRUGS

In the IMNCI Chart Booklet, the oral antibiotics are colour coded for easy reference. The first line antibiotics are coded in **ORANGE** and second line antibiotics are coded in **GREEN**.

Always start with a first-line drug. These are usually less expensive, more readily available and easier to administer. Give a second-line drug (which are usually more expensive and more difficult to obtain) only if a first-line drug is not available, or if the child's illness does not respond to the first-line drug. The health care provider also needs to teach the mother or caregiver how to give oral drugs at home.

Oral antibiotics. The IMNCI chart has the dosage and frequency of each drug. Most antibiotics should be given for five days but exceptions are specifically mentioned wherever relevant. The number of times to give the antibiotic each day varies (two, three or four times per day). Determine the correct dose of antibiotic based on the child's weight. If the child's weight is not available, use the child's age. Always check if the same antibiotic can be used for treatment of different classifications a child may have. For example, the same antibiotic could be used to treat both pneumonia and acute ear infection.

Paracetamol. If a child has a high fever, give one dose of paracetamol in the clinic. If the child has ear pain, handover the mother enough paracetamol for one day, that is, four doses. Tell her to administer one dose every six hours or until the ear pain

is gone.
Iron. A child with anemia needs iron. The Dosage is mentioned in the chart booklet. Enough iron for 14 days should be handed over to the mother. Tell her to give her child one dose daily for those 14 days. Ask her to return for more iron in 14 days. Also tell her that the iron may make the child's stools black.

Vitamin A. Vitamin A is given to a child with measles or severe malnutrition. Vitamin A helps resist the measles virus infection in the eye as well as in the layer of cells that line the lung, gut, mouth and throat. It may also help the immune system to prevent other infections. Vitamin A is available in a capsule. Use the child's age to determine the dose.

Safe remedy for cough and cold if the infant is 6 months or older. There is no evidence that commercial cough and cold remedies/syrups are any more effective than simple home remedies in relieving a cough or soothing a sore throat. Suppression of a cough is not desirable because cough is a physiological reflex to eliminate lower respiratory tract secretion. Breastmilk alone is a good soothing remedy. Tulsi, ginger, herbal teas are other safe local home remedies.

Do not recommend giving honey as there is a risk of childhood Botulism.

2.4 COUNSELLING A MOTHER OR CAREGIVER

A child who is seen at the clinic needs to continue treatment, feeding and fluids at home. The child's mother or caregiver also needs to recognize when the child is not improving, or is becoming sicker. The success of home treatment depends on how well the mother or caregiver knows how to give treatment, understands its importance and knows when to return to a health care provider.

The steps to good communication were listed earlier. Some advice are simple; other advice requires teaching the mother or caregiver how to do a task. When you teach a mother how to treat a child, use three basic teaching steps: give information; show an example; let her practice.

When teaching the mother or caregiver: (1) use words that s/he understands; (2) use teaching aids that are familiar; (3) give feedback when s/he practices, praise what was done well and make corrections; (4) allow more practice, if needed; and (5) encourage the mother or caregiver to ask questions and then answer all questions. Finally, it is important to check the mother's or caregiver's understanding.

The content of the actual advice will depend on the child's condition and classifications. Below are essential elements that should be considered when counselling a mother or caregiver:

- Advise to continue feeding and increase fluids during illness;
- Teach how to give oral drugs or to treat local infection;

- Counsel to solve feeding problems (if any);
- Advise when to return.

Advise to continue feeding and increase fluids: The IMNCI guidelines give feeding recommendations for different age groups. These feeding recommendations are appropriate both when the child is sick and when the child is healthy. During illness, children's appetite and thirst may be decreased. However, mothers and caregivers should be counselled to increase fluids and to offer the types of food recommended for the child's age, as often as recommended, even though a child may take small amounts at each feeding. After illness, good feeding helps make up for weight loss and helps prevent malnutrition. When the child is well, good feeding helps prevent future illness.

Teach how to give oral drugs or to treat local infection at home: Simple steps should be followed when teaching a mother or caregiver how to give oral drugs or treat local infections. These steps include:

(1) Determine the appropriate drugs and dosage for the child's age or weight;

(2) Tell the mother or caregiver what the treatment is and why it should be given;

(3) Demonstrate how to measure a dose;

(4) Describe the treatment steps;

(5) Watch the mother or caregiver practise measuring a dose;

(6) Ask the mother or caregiver to give the dose to the child;

(7) Explain carefully how, and how often, to do the treatment at home;

(8) Explain that All oral drug tablets or syrups must be used to finish the course of treatment, even if the child gets better;

(9) Check the mother's or caregiver's understanding.

Counsel to solve feeding problems (if any): Based on the type of problems identified, it is important to give correct advice about the nutrition of the young child both during and after illness. Sound advice that promotes breastfeeding, improved weaning practices with locally appropriate energy- and nutrient-rich foods, and giving nutritious snacks to children 2 years or older, can counter the adverse effect of infections on nutritional status. Specific and appropriate complementary foods should be recommended and the frequency of feeding by age should be explained clearly. Encourage exclusive breastfeeding upto six months; discourage use of feeding bottles for children of any age; and provide guidance on how to solve important problems with breastfeeding. The latter includes assessing the adequacy of attachment and suckling. Specific feeding recommendations should be provided for children with persistent diarrhoea.

2.5 Advise when to return: Every mother or caregiver who is taking a sick child home needs to be advised about when to return to a health facility. The health care provider should

(a) Teach signs that mean to return immediately for further care;

(b) Advise when to return for a follow-up visit; and

(c) Schedule the next well-child or immunization visit.

The table below lists the specific times to advise a mother or caregiver to return to a health facility.

A) IMMEDIATELY	
Advise the mother to return immediately if the child has any of these signs:	
Any sick child	• Not able to drink or breastfeed • Becomes sicker • Develops fever
If child has COUGH or COLD	• Fast breathing • Difficult breathing
If child has DIARRHOEA	• Blood in stool • Drinking poorly

B) FOR FOLLOW-UP VISIT	
If the child has:	Return for follow-up not later than:
PNEUMONIA DYSENTERY MALARIA, if fever persists FEVER-NO MALARIA if fever persists MEASLES WITH EYE OR MOUTH COMPLICATION MOUTH OR GUM ULCERS OR THRUSH	3 days
PERSISTENT DIARRHOEA ACUTE EAR INFECTION CHRONIC EAR INFECTION COUGH OR COLD, if not improving	5 days
FEEDING PROBLEM	7 days
ANEMIA	14 days
MODERATE ACUTE MALNUTRITION	30 days
DIAGNOSED TB CASES	Every 7 days to ensure DOTs

Advise when to return for the next immunization according to the immunization schedule.

2.6 FOLLOW-UP CARE

Some sick children will need to return for follow-up care. At a follow-up visit, see if the child is improving on the drug or other treatment that was prescribed. Some children may not respond to a particular antibiotic, and may need to try a second-line drug. Children with persistent diarrhoea also need follow-up to be sure that the diarrhoea has stopped. Children with fever or eye infection need to be seen if they are not improving. Follow-up is especially important for children with a feeding problem to ensure they are being fed adequately and are gaining weight.

When a child comes for follow-up of an illness, ask the mother or caregiver if the child has developed any new problems. If she answers yes, the child requires a full assessment: check for general danger signs and assess all the main symptoms and the child's nutritional status.

If the child does not have a new problem, use the IMNCI follow-up instructions for each specific problem:

- Assess the child according to the instructions;
- Use the information about the child's signs to select the appropriate treatment;
- Give the treatment.

Note: If a child who comes for follow-up has several problems and is getting worse, or returns repeatedly with chronic problems that do not respond to treatment, the child should be referred to a hospital.

The IMNCI charts contain detailed instructions on how to conduct follow-up visits for different diseases.

3. OUTPATIENT MANAGEMENT OF YOUNG INFANTS UPTO 2 MONTHS OF AGE

3.1 LEARNING OBJECTIVES

This section will describe the following tasks and allow you to practice in young infant for:

- Possible bacterial infection
- Jaundice
- Diarrhoea
- Feeding problem or Low Weight for Age
- Assessing breastfeeding and Immunization Status
- Assess other problems
- Assess the mother's health needs

3.2 ASSESSMENT OF SICK YOUNG INFANTS

Young infants have special characteristics that must be considered when classifying their illnesses. They can become sick and die very quickly from serious bacterial infections. They frequently have only general signs such as few movements, fever or low body temperature. Mild chest indrawing is normal in young infants because their chest wall is soft. For these reasons, you will assess, classify and treat the young infant somewhat differently than an older infant or young child. The assessment procedure for this age group includes a number of important steps that must be taken by the health care provider, including:

1. History taking and communicating with the caregiver about the young infant's Problem
2. Checking for possible Serious Bacterial Infection, Very Severe Disease or Local bacterial infection
3. Checking for Jaundice
4. Checking for Diarrhoea
5. Checking for Feeding Problem or Low Weight for Age in Breastfed and Non Breastfed infants.
6. Checking Immunization status
7. Assessing other problems and
8. Assessing the Mother's health need

3.2.1 COMMUNICATING WITH THE CAREGIVER

Sick young infants are somewhat different from older children. Select the case management section for the young infant age up to 2 months.

- Greet the mother with a friendly smile
- Ask the mother what the young infant's problems are
- Record what the mother tells you about the infant's problems

An important reason for asking this question is to open good communication with the mother. Using good communication helps to reassure the mother that her infant will receive good care. When you treat the infant's illness later in the visit, you will need to teach and advise the mother about caring for her sick infant at home.

- **Listen carefully to what the mother tells you.** This will show her that you are taking her concerns seriously.
- **Use words the mother understands.** If she does not understand the questions you ask her, she cannot give the information you need.

- **Give the mother time to answer the questions.** For example, she may need time to decide if a symptom you asked about is present.
- **Ask additional questions when the mother is not sure about her answer.** When you ask about a symptom, the mother may not be sure if it is present. Ask her additional questions to help her give clearer answers.

Communicating - History taking
A mother (or other family member such as the father, grandmother, sister or brother) usually brings a young infant to the clinic because the infant is sick. But mothers also bring their infants for well- baby visits, immunization sessions and for other problems. The steps on the ASSESS & CLASSIFY THE SICK YOUNG INFANT chart describe what you should do when a mother brings her young infant to the clinic because the infant is sick.

The chart should not be used for a well infant brought for immunization or for an infant with an injury or burn. This chart also should not be used for taking care of the newborn at birth.

When you see the mother and her sick infant:
- **Greet the mother appropriately** and ask her to sit with her infant.

You need to know the infant's age so you can choose the right case management chart. Look at the infant's record to find the infant's age.
- If the infant is up to 2 months, assess and classify the young infant according to the steps on the ASSESS AND CLASSIFY THE SICK YOUNG INFANT chart.
- If the child is aged 2 months up to 5 years, assess and classify the child according to the steps on the ASSESS AND CLASSIFY THE SICK CHILD.

Look to see if the young infant's weight and temperature have been measured and recorded. If not, weigh the infant and measure his/her temperature later when you assess and classify the infant's main symptoms. Do not undress or disturb the infant now.

* **Ask the mother what the young infant's problems are.** Record what the mother tells you about the infant's problems.
An important reason for asking this question is to open good communication with the mother. Good communication helps to reassure the mother that her infant will receive good care.

* **Determine if this is an initial or follow-up visit for this problem.**
If this is the infant's first visit for this episode of an illness or problem, then this is an initial visit.

If the young infant was seen a few days ago for the same illness, this is a follow-up visit. A follow- up visit has a different purpose than an initial visit. During a follow-up visit, the Health Worker finds out if the treatment (S)he gave during the initial visit has helped the infant. If the young infant is not improving or is getting worse after a few days, the Health Worker refers the infant to a hospital or changes the infant's treatment.

You will learn how to carry out a follow-up visit later in the module. The examples in this section describe infants who have come for an initial visit. If it is an initial visit, follow the sequence of steps on the chart booklet to assess and classify a sick young infant:

- Check for signs of Possible Serious Bacterial Infection, Very Severe Disease or Local Bacterial Infection and Jaundice. Then classify the young infant based on the signs found.
- Ask about Diarrhoea. If the infant has diarrhoea, assess the related signs. Classify the young infant for dehydration.
- Check for Feeding Problem or Low Weight for Age.This may include assessing breastfeeding.Then classify feeding.
- Check the young infant's Immunization Status.
- Assess any other problems.
- Assess the Mother's health needs.

If you find a reason that a young infant needs urgent referral, you should continue the assessment. However, skip the breastfeeding assessment because it can take some time.

Using the Young Infant Recording Form

Record the information on Young Infant Recording Form. The top lines are for recording name, age, weight, temperature, the infant's problems and whether this is an initial or follow-up visit. Below is part of a Young Infant Recording Form.

An example of completing the top of the Recording Form for Jigme is shown as follows:
Similar forms are now available in ePIS.

CASE: *Jigme is a 6 weeks old male. He weighs 4.5 kg. His temperature is 37°C. The Health Worker asked "What are the infant's problem?" The mother said "Jigme has diarrhoea and skin rash for the last 3 days". This is the initial visit for this illness.*

MANAGEMENT OF THE SICK YOUNG INFANT AGE Upto 2 MONTHS

Name: ***Jigme*** Age: ***6 weeks*** Gender: ***Male*** Weight: ***4.5 kg*** Temperature: ***37°C***

ASK: What are the infant's problems? ***diarrhoea and skin rash*** Initial visit? ✓
Follow-up Visit?

3.2.2 CHECKING FOR POSSIBLE SERIOUS BACTERIAL INFECTION, VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION.

While the signs of pneumonia and other serious bacterial infections cannot be easily distinguished in this age group, it is recommended that all sick young infants be assessed first for signs of Possible Bacterial Infection, Very Severe Disease or Local Bacterial Infection.

In this step you are looking for signs of bacterial infection, especially a serious infection.

A young infant can become sick and die very quickly from serious bacterial infections such as pneumonia, sepsis and meningitis.

It is important to assess the signs in the order on the chart booklet and to keep the young infant calm. The young infant must be calm and may be asleep while you count breathing and look for severe chest indrawing.

To assess the next few signs, ask the mother/caregiver to undress him, look at the skin all over his body and measure his temperature. By this time, the infant will probably be awake. Then you can see whether the infant is lethargic or unconscious and observe his movements.

Clinical Assessment

Many clinical signs point to possible serious bacterial infection in sick young infants. The most informative and easy to check signs are:

Difficulty in feeding. A young infant who was feeding well earlier but is not feeding well now, may have a serious infection.

Convulsions (as part of the current illness). Convulsions may be associated with meningitis or other life-threatening conditions. All young infants who have had convulsions during the present illness should be considered seriously ill. Convulsion in young infants may not be characterized by tonic-clonic movements and up rolling of eyeballs, they may instead present as repetitive jerky movements of the eyes, lip smacking or a staring look.

Fast breathing. Count the breaths in one minute to decide if the young infant has fast breathing. The young infant must be quiet and calm when you look and listen to his breathing. If the young infant is frightened, crying or angry, you will not be able to obtain an accurate count of the infant's breaths. Tell the mother you are going to count her infant's breathing. Remind her to keep her infant calm. If the infant is sleeping, do not wake him. To count the number of breaths in one minute, use a

watch with a second hand or a digital watch. Put the watch where you can see the second hand and glance at the second hand as you count the breaths the young infant takes in one minute. Look for breathing movement anywhere on the infant's chest or abdomen. Usually, you can see breathing movements even on an infant who is dressed. If you cannot see this movement easily, ask the mother to lift the infant's shirt. If the young infant starts to cry, ask the mother to calm the infant before you start counting. If you are not sure about the number of breaths you counted (for example, if the young infant was actively moving and it was difficult to watch the chest, or if the young infant was upset or crying), repeat the count.

Young infants usually breathe faster than older children do. **The cut-off rate to identify fast breathing in this age group is 60 breaths per minute or more.** If the count is 60 breaths or more, the count should be repeated, because the breathing rate of a young infant is often irregular. The young infant may occasionally stop breathing for a few seconds, followed by a period of faster breathing. If the second count is also 60 breaths or more, the young infant has fast breathing.

Look for severe chest indrawing

If you did not lift the young infant's shirt when you counted the infant's breaths, ask the mother to lift it now. Look for chest indrawing when the young infant breathes IN. Look at the lower chest wall (lower ribs). The young infant has chest indrawing ***if the lower chest wall goes IN when the infant breathes IN.*** Chest indrawing occurs when the effort the young infant needs to breathe in is much greater than normal. In normal breathing, the whole chest wall (upper and lower) and the abdomen move OUT when the young infant breathes IN. When chest indrawing is present, the lower chest wall goes IN when the young infant breathes IN.

If you are not sure that chest indrawing is present, look again. If the young infant's body is bent at the waist, it is hard to see the lower chest wall move. Ask the mother to change the infant's position so he is lying flat in her lap. If you still do not see the lower chest wall go IN when the infant breathes IN, the infant does not have chest indrawing. ***For chest indrawing to be present, it must be clearly visible and present all the time.*** If you only see chest indrawing when the young infant is crying or feeding, the young infant does not have chest indrawing.

Source: https://shorturl.at/0Knxd

If only the soft tissue between the ribs goes in when the infant breathes in (also called intercostal indrawing or intercostal retractions), the infant does not have chest indrawing. In this assessment, chest indrawing is lower chest wall indrawing. It does not include "intercostal indrawing."

Mild chest indrawing is normal in a young infant because the chest wall is soft. Severe chest indrawing is very deep and easy to see. Severe chest indrawing is a sign of pneumonia and is serious in a young infant.

Umbilicus red or draining pus: There may be some redness of the umbilicus or the umbilicus may be draining pus (The cord usually drops from the umbilicus by one week of age). You must also look for the skin redness extending upto the surrounding skin.

Skin pustules: Examine the skin on the entire body. Skin pustules are red spots or blisters that contain pus and count them.

Temperature: A thermometer that measures to a minimum of 35°C can be used to measure temperature. Keep the bulb of the thermometer high in the axilla and then hold the young infant's arms against his body until there is a beep in case of digital thermometer or for 5 minutes in case you are using mercury bulb thermometer. If you do not have a thermometer, feel the infant's abdomen or axilla (underarm) and determine if it feels hot or cold to touch.

Fever or hypothermia may both indicate bacterial infection. Fever (axillary temperature more than 37.5°C) is uncommon in the first two months of life. Fever in a

young infant may indicate a serious bacterial infection and may be the only sign of a serious bacterial infection. Young infants can also respond to infection by dropping their axillary temperature to below 35.5 °C.

Lethargy or unconsciousness: Young infants often sleep most of the time, and this is not a sign of illness. Even when awake, a healthy young infant will usually not watch his mother and a health worker while they talk, as an older infant or young child would. A lethargic young infant is not awake and alert when he should be. He may be drowsy and may not stay awake after a disturbance. If a young infant does not wake up during the assessment, flick the sole 2-3 times. Look to see if the child awakens and whether he stays awake. If the young infant shows no response or does not stay awake after some response, he is lethargic or unconscious.

Less than normal movement: also indicates a serious condition. Observe the infant's movements. An awake young infant will normally move his arms or legs or turn his head several times in a minute if you watch him closely.

Checking for Skin paleness

- Ensure Good Lighting: Perform the assessment in a well-lit area. Natural light is best.
- Where to Look: Do NOT rely on the face alone. Examine the palms of the hands, soles of the feet, and the inside of the lower eyelids or the gums.
- How to Classify:
  - » Some Paleness (Pale): The skin on palms, soles, or inner eyelids looks pale or less pink than expected, but there is still some colour.
  - » Severe Paleness (Severely Pale): The skin in these areas is very pale or appears paper white/waxy. This is a danger sign.

Pulse Oximetry:

- Proper Placement:
  - » The best sites for a young infant are the wrist, the sole of the foot, or the palm of the hand.
  - » Ensure the site is warm, clean, and has good circulation.
- Get a Good Reading:
  - » Hold the infant's limb still. Movement can disrupt the reading.
  - » Wait until the reading on the monitor is stable and the pulse rate displayed matches the infant 's actual heart rate.
- How to Classify:

- Normal SpO_2: 90% or above.
- Low SpO_2 (Danger Sign): Less than 90%.

Eye Discharge:
What to Look For

- Condition: Presence of purulent (pus-like) eye discharge in an infant aged 0 to 28 days.
- Key Sign: The discharge can be in one eye (unilateral) or both eyes (bilateral). The eyelids may be swollen or stuck together.

Purulent eye discharge in the first 4 weeks of life is not a simple eye infection. It is a Neonatal Conjunctivitis that can be caused by serious bacteria acquired during birth (like Gonorrhea or Chlamydia). If untreated, it can lead to:

- Severe eye damage and blindness
- Spread of infection to other parts of the body

3.2.2.1 CLASSIFICATION OF POSSIBLE SERIOUS BACTERIAL INFECTION, VERY SEVERE DISEASE OR LOCAL BACTERIAL INFECTION.

All sick young infants are classified for Possible Serious Bacterial Infection as follows: A sick young infant must be classified as having **POSSIBLE SERIOUS BACTERIAL INFECTION OR VERY SEVERE DISEASE** if any of the following signs is present:

- Movement only when stimulated OR
- No movement at all OR
- Not feeding well OR
- Convulsions OR
- Fast breathing (60 breaths per minute or more) OR
- Severe chest in drawing OR
- Fever (37.5°C or above) OR
- Low body temperature (< 35.5°C) OR
- Grunting OR
- Severe skin pustules (>10 in numbers) OR
- Umbilical redness extending upto the skin OR
- Cyanosis OR
- Severely pale OR
- SpO2 < 90% OR

- RBS < 45 mg/dL

Such infants should be referred urgently to the hospital after being given the first dose of intramuscular ampicillin plus gentamicin injection, treatment to prevent hypoglycemia and advise to the mother on keeping the young infant warm while arranging referral and on the way to the hospital.

A sick young infant with **LOCAL BACTERIAL INFECTION** is the one with umbilicus red or draining pus or skin pustules ≤ 10 in numbers or ear discharge. This infant may be treated at home with oral antibiotics but should be seen in follow-up after two days.

A sick young infant with unilateral or bilateral purulent eye discharge in the first 28 days of life must be classified as having **NEONATAL CONJUNCTIVITIS** and must be treated with IM injection of Ceftriaxon single dose and oral Azithromycin for 3 days.

If there are none of the signs of Possible Serious Bacterial Infection or Very Severe Disease or Local Bacterial Infection, then the sick young infant can be classified as **NO SEVERE DISEASE, NO SERIOUS OR LOCAL BACTERIAL INFECTION** and can be managed at home.

3.2.3 THEN CHECK FOR JAUNDICE

Jaundice is the visible manifestation of hyper-bilirubinemia. Yellow discolouration of skin is visible in a neonate when serum bilirubin is more than 5 mg/dL. Almost all neonates may have 'physiological jaundice' during the first week of life due to several physiological changes taking place after birth. Physiological jaundice usually appears between 48-72 hours of age, maximum intensity is seen on 4-5th day in term and 7th day in preterm neonates. Physiological jaundice does not extend to palms and soles, and does not need any treatment.

To look for jaundice, press the infant's skin over the forehead with your fingers to blanch, remove your fingers and immediately look for yellow discoloration under natural light. If there is yellow discoloration, the infant has jaundice.

Yellow palms and soles. Press the infant's palms with your fingers to blanch, remove your fingers and look for yellow discoloration under natural light. Repeat the process to look for yellow soles. Occurrence of jaundice in the first 24 hours of life and yellow discoloration of palms and soles at any time is always pathological and requires urgent referral. Severe jaundice beyond the first week may be a result of cholestasis.

It is important to look for jaundice in natural light.

3.2.3.1 Classify Jaundice

A sick young infant must be classified as having SEVERE JAUNDICE if the infant has any of the following signs:

- Any jaundice if age is less than 24 hours
- Yellow palms or soles at any age
- TCB more than cut off as per the age in the table on page 46 of IMNCI Chart booklet
- Pale stool

These infants should be referred URGENTLY to the hospital.
A sick young infant must be classified as having JAUNDICE if:

- Jaundice appearing after 24 hours of age AND
- Yellow eyes or skin, but not in the soles and palms. AND/OR
- TCB less than the cutoff as per age in the table provided on page 46 of IMNCI Chart Booklet.

These infants can be managed at home after giving the appropriate treatment provided in the chart booklet.

If there is no jaundice then classify as **NO JAUNDICE** and proceed to the next assessment.

Case practice for Young Infant with Possible Bacterial Infection, Very Severe Disease or Local Bacterial Infection and Jaundice.

CASE: *Jigme is a 6 weeks old male. He weighs 4.5 kg. His temperature is 37°C. The Health worker asked "What are the infant's problem?" The mother said "Jigme has diarrhoea and a skin rash for the last 3 days". This is the initial visit for this illness.*

The health worker checks the young infant for signs of possible bacterial infection & jaundice. His mother says that Jigme is feeding well, has not had convulsions. The health worker counts 55 breaths per minute. He finds no chest indrawing. Measured axillary temperature is 37°C. His movements are normal. The umbilicus is normal. There are 6 skin pustules. He does not have jaundice.

3.2.4 THEN CHECK FOR DIARRHOEA

A young infant is considered to have diarrhoea if the stools have changed from the usual pattern and are many and watery (more water than faecal matter). The normal frequent or loose stools of a breastfed baby are not diarrhoea.

All young infants with diarrhoea should be assessed for: (a) signs of dehydration; (b) duration of diarrhoea; and (c) blood in the stool.

Clinical Assessment
A number of clinical signs are used to determine the level of dehydration.
Infant's general condition. You have already checked if the young infant has **Movement only when stimulated or No movement at all** while checking for severe disease.

A young infant has the sign **restless and irritable,** if the young infant is restless and irritable all the time or every time he is touched and handled. If an infant is calm when breastfeeding but again restless and irritable when he stops breastfeeding, he has the sign "restless and irritable" due to dehydration.

Sunken eyes. The eyes of a dehydrated infant may look sunken. In a severely malnourished infant who is visibly wasted, the eyes may always look sunken, even if the infant is not dehydrated. When in doubt, ask the mother whether the infant's eyes are more sunken after onset of diarhhoea. Even though the sign "sunken eyes" is less reliable in a visibly wasted infant, it can still be used to classify the infant's dehydration.

Skin pinch. Check elasticity of skin using the skin pinch test. When released, the skin pinch goes back either very slowly (longer than 2 seconds), or slowly (skin stays up even for a brief instant), or immediately. In an infant with severe malnutrition, the skin may go back slowly even if the infant is not dehydrated. In an overweight infant, or an infant with oedema, the skin may go back immediately even if the infant is dehydrated.

3.2.4.1 Classification of Diarrhoea for Dehydration

Based on a combination of the above clinical signs, infants presenting with diarrhoea are classified into three categories.

A young infant with **SEVERE DEHYDRATION** has any two of the following signs:

- Movement only when stimulated or no movement at all
- Has sunken eyes
- Skin pinch goes back very slowly

Patients have severe dehydration if they have a fluid deficit equaling greater than 10 percent of their body weight. Young infants with severe dehydration require immediate IV infusion according to WHO treatment guidelines described in Plan C (chart book pg.19). Refer if IV access cannot be established or if the infant also has another severe classification.

Infants with **SOME DEHYDRATION** have combination of any two of the following signs:

- Restless/irritable
- Sunken eyes
- Skin pinch goes back slowly

Infants with some dehydration have a fluid deficit equaling 5 to 10 percent of their body weight and require active oral rehydration with ORS solution according to WHO treatment guidelines described in Plan B (chart book pg.pg.18).

Those infants with diarrhoea who do not have enough signs to classify as severe or some dehydration is classified as **NO DEHYDRATION.** Such patients usually have a fluid deficit less than 5 percent of their body weight. Although these children lack distinct signs of dehydration, they should be given more fluid than usual to prevent dehydration from developing as specified in WHO Treatment Plan A (chart book pg.17).

Note: Anti-diarrhoeal drugs - including anti-motility agents (e.g., loperamide, diphenoxylate, codeine, tincture of opium), adsorbents (e.g. kaolin), etc. do not provide practical benefits for infants and children with acute diarrhoea, and some may have dangerous side effects. These drugs should never be given to children less than 5 years old.

If the Young Infant has diarrhoea with a duration of more than two weeks, classify as **SEVERE PERSISTENT DIARRHOEA** and refer to Hospital for further assessment. If a child with Severe Persistent Diarrhoea has severe dehydration, it needs urgent referral and follow the treatment protocol of **SEVERE DEHYDRATION.**

Classifying diarrhoea of this duration as “severe” is based on the profound risks it poses to a newborn or young infant:

A) Extreme Risk of Severe Malnutrition: A young infant’s primary, and often only, source of nutrition is milk. Persistent diarrhoea leads to malabsorption of essential nutrients. In this critical period of rapid growth, even a few days of poor absorption can lead to significant weight loss and faltering growth, which can have long-term consequences.

B) High Risk of Severe Dehydration: While all diarrhoea can cause dehydration, a persistent case over two weeks represents a continuous, slow drain of fluids and electrolytes. A young infant has a much smaller fluid reserve than an older child, making them exponentially more vulnerable.

C) Immune System Vulnerability: A) Persistent diarrhoea is often a sign of an underlying infection (bacterial, parasitic) or digestive problem. A young infant's immune system is still developing, making them less able to fight off these persistent infections, which can then lead to a dangerous cycle of illness and malnutrition.

D) Risk of Systemic Infection (Sepsis): IA) In a young infant, a localized gut infection can easily translocate across the immature intestinal lining into the bloodstream, leading to sepsis, a leading cause of death in this age group. The "Persistent Diarrhoea" classification flags this risk.

If the Sick Young Infant with diarrhoea has blood in stool, Classify as **SERIOUS ABDOMINAL PROBLEM** and refer urgently to hospital.

The IMNCI protocol is designed to err on the side of caution, especially with newborns who can deteriorate rapidly. Blood in the stool (dysentery) is a major red flag for several life-threatening conditions:

Invasive Bacterial Infection: This is the primary concern.
Bacterial Enteritis: Infections like Shigella, certain strains of Salmonella, or Campylobacter can invade the lining of the intestines, causing ulceration and bleeding. These are not simple diarrhoea; they are systemic illnesses.

Necrotizing Enterocolitis (NEC): This is a devastating and often fatal disease primarily seen in newborns, especially preterm infants. It involves infection and inflammation that destroys the bowel wall. Blood in the stool (often "bright red" or "currant jelly"like) is a classic, late sign. NEC is a surgical emergency.

Sepsis: A gut-based infection can easily lead to sepsis in a young infant whose immune system is immature. The bacteria can cross the damaged intestinal barrier and enter the bloodstream, causing a body-wide infection.

Structural Abnormalities: While less common, conditions like volvulus (twisting of the intestine) or intussusception (telescoping of the intestine) can cause bleeding and are surgical emergencies. Intussusception is more common in older infants but can occur in neonates.

Severe Dehydration and Electrolyte Imbalance: Bloody diarrhoea is often more voluminous and aggressive, leading to a rapid loss of fluids and electrolytes. In a small infant with minimal reserves, this can lead to shock and death very quickly.

High Risk of Complications: Infections causing bloody diarrhoea are associated with a higher risk of complications like seizures (due to high fever or Shiga toxin), haemolytic uraemic syndrome (HUS), and perforation of the intestine.

Example of the Top Section of the Young Infant Case Recording Form

CASE: *Jigme is a 6 weeks old male. He weighs 4.5 kg. His temperature is 37°C. The Health worker asked "What is the infant's problem?" The mother said "Jigme has diarrhoea and a skin rash for the last 3 days" This is the initial visit for this illness.*

The health worker checks the young infant for signs of possible bacterial infection & jaundice. His mother says that Jigme is feeding well, has not had convulsions. The Health worker counts 55 breaths per minute. He finds no chest indrawing. Measured axillary temperature is 37°C. His movements are normal. The umbilicus is normal. There are 6 skin pustules. He does not have jaundice. When the health worker asks the mother about Jigme's diarrhoea, the mother replies that it began 3 days ago, and there is no blood in the stool. Jigme is crying. He stopped crying once when his mother put him to the breast. He began crying again when she stopped breastfeeding. His eyes look normal, not sunken. When the skin of his abdomen is pinched, it goes back slowly.

3.2.5 CHECKING FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE IN BREASTFED YOUNG INFANTS

All sick young infants seen in outpatient health facilities should be assessed for low weight and adequate feeding, as well as for breast-feeding technique provided if there is no severe classification for them.

Clinical Assessment

Assessment of Feeding Problem or Very Low Weight for Age

Assessment of feeding in young infants has two parts. In the first part, you ask the mother questions to determine if she is having difficulty feeding the infant, what the young infant is fed and how often. You also determine weight for age.

In the second part, if an infant has any difficulty in feeding or is breastfeeding less than 8 times in 24 hours or is taking any other foods or drinks or is low weight for age and has no indication for referrals, then breastfeeding should be assessed. Assessment of breastfeeding in young infants includes checking if the infant is able to attach well, if the infant is suckling effectively (slow, deep sucks, with some pausing), and if there are ulcers or white patches in the mouth (thrush).

PART I

Is the infant breastfed? If yes, how many times in 24 hours? The recommendation is that the young infant be breastfed as often and for as long as the infant wants, day and night. This should be 8 or more times in 24 hours. Low birth weight babies should be breastfed more frequently (10-12 times) initially.

Does the infant usually receive any other foods or drinks? If yes, how often? A young infant should be exclusively breastfed. Find out if the young infant is receiving any other foods or drinks such as other milk, juice, tea, thin porridge, dilute cereal, or even water.

Ask how often he receives it and the amount. You need to know if the infant is mostly fed on other foods.

What do you use to feed the infant? If an infant takes other foods or drinks, find out if the mother uses a feeding bottle or feed by cup.

Determine Weight for Age.

Use the appropriate growth chart of Weight for Age for Boys and Girls provided at the end of the IMNCI Chart book (page 59 to 64). The age of a young infant is usually stated in weeks, therefore a weight for age chart for young infants upto 2 months has also been given in weeks. To determine weight for age:

1. Calculate the infant's age in weeks.
2. Weigh the young infant if he has not already been weighed today. Use a scale which you know gives accurate weights. The infant should wear light clothing when he is weighed. Ask the mother to help and remove any sweater or shoes.
3. Use the weight for age chart to determine weight for age.
4. Look at the left-hand axis to locate the line that shows the young infant's weight.
5. Look at the bottom axis of the chart to locate the line that shows the young infant's age in weeks.
6. Find the point on the chart where the line for the young infant's weight meets the line for the infant's age.
7. Decide where the point is located in relation to the Standard Deviations.
8. If the point is below the -3 SD Weight for Age line, the young infant is very Low Weight for Age.
9. If the point is above or on the -3SD Weight for Age line and below the -2SD Weight for Age line, the young infant is Low Weight for Age.
10. If the point is above or on the -2 SD line, the young infant is Not Low Weight for Age.

Young Infants are classified as having **VERY LOW WEIGHT FOR AGE** if they have:

- Less than 2000 gm (2 kg) in infants less than 7 days old or
- Weight for Age Z-score is < -3 SD in young infants 7-59 days old.

Infants who are **Very Low Weight for Age** should be referred to a hospital for Kangaroo Mother care. Advise the mother to keep the young infant warm on the way to hospital by KMC transport. Treat to prevent low blood sugar.
Young infants are classified as having LOW WEIGHT FOR AGE if their Weight for Age Z-score is ≥ -3 SD and < - 2 SD.

PART 2

Is there any feeding difficulty? Any difficulty mentioned by the mother is important. This mother may need counseling or specific help if s/he has difficulty. If a mother says that the infant is not able to feed, assess breastfeeding or watch her try to feed the infant with a cup to see what she means by this. An infant who is not able to feed may have a serious infection or other life-threatening problem and should be referred urgently to hospital.

How to assess breastfeeding
First decide whether there is a need to assess the infant's breastfeeding. **Do not assess breastfeeding, if the young infant has a serious problem requiring urgent referral to a hospital.**

In this situation, classify that feeding based on the information that you already have. If the mother answers that there is any difficulty in feeding or is breastfeeding less than 8 times in 24 hours or is taking any other foods or drinks or is low weight for age observe breastfeed as described below. Low weight for age is often due to low birth weight. Low birth weight infants are likely to have a problem with breastfeeding so it is important to assess breastfeeding in these infants. Assessing breastfeeding requires careful observation so that problems are identified and corrected.

Has the infant breastfed in the previous hour?
If yes, ask the mother to wait and tell you when the infant is willing to feed again. In the meantime, complete the assessment by assessing the infant's immunization status.

If the infant has not fed in the previous hour, he may be willing to breastfeed. Ask the mother to put her infant to the breast. Observe a whole breastfeed if possible or observe for at least 4 minutes. Sit quietly and watch the infant breastfeed.

Is the infant able to attach?

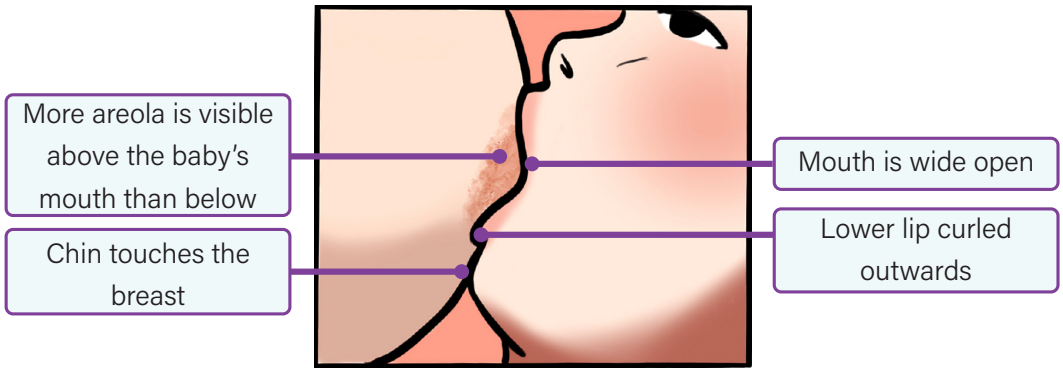
The four signs of good attachment are (If all of these four signs are present, the infant has good attachment).

Breastfeeding: Signs of Good Attachment

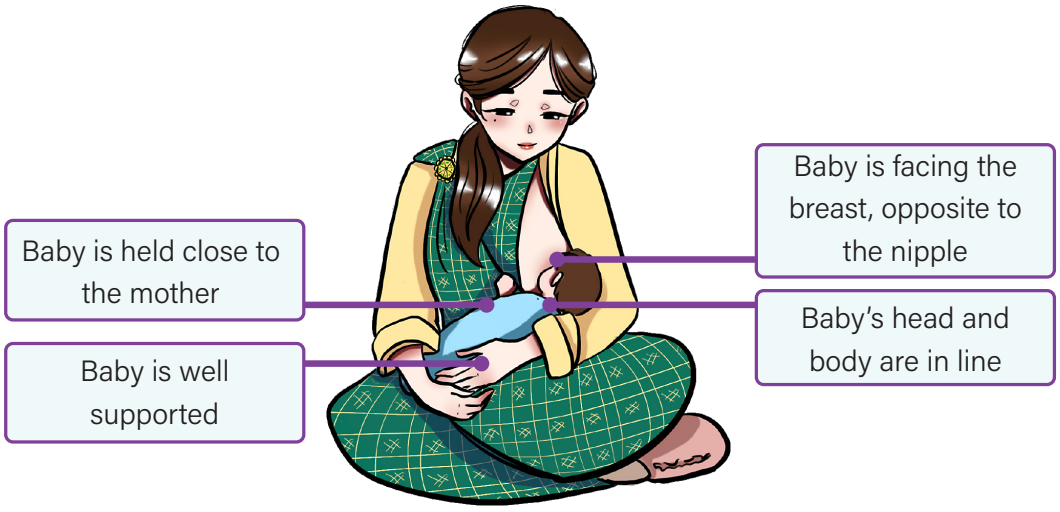
- Chin Touches the breast
- Mouth is wide open
- Lower lip curled outward
- More areola is visible above the baby's mouth than below

If a very sick infant cannot take the nipple into his mouth and keep it there to suck, he has no attachment at all. He is not able to breastfeed at all. If an infant is not well attached, the results may be pain and damage to the nipples or the infant may not remove breast milk effectively, which may cause engorgement of the breast. These infants may be unsatisfied after breastfeeds and want to feed very often and for a very long time. The infant may get too little milk and not gain weight, or the breast milk may dry up. All these problems may improve if attachment can be improved.

4 signs of good attachment



4 signs of good positioning



Is the infant suckling effectively? (slow deep sucks, sometimes pausing)
The infant is **suckling effectively** if he suckles with slow deep sucks and sometimes pauses. You may see or hear the infant swallowing. If you can observe how the breastfeed finishes, look for signs that the infant is satisfied. If satisfied, the infant releases the breast spontaneously (that is, the mother does not cause the infant to stop breastfeeding in any way). The infant appears relaxed, sleepy and loses interest in the breast.

An infant is **not suckling effectively** if he is taking only rapid, shallow sucks. You may also see indrawing of the cheeks in these infants. You do not see or hear swallowing. The infant is not satisfied at the end of the feed, and may be restless. He may cry or try to suckle again, or continue to breastfeed for a long time.

An infant who is n**ot suckling at all** is not able to suck breast milk into his mouth and swallow. Therefore, he is not able to breastfeed at all. If a blocked nose seems to interfere with breastfeeding, clear the infant's nose and reassess. Then check whether the infant can suckle more effectively.

Ulcers or white patches in the mouth (Thrush)
Look inside the mouth at the tongue and inside of the cheek. Thrush looks like milk curds on the inside of the cheek, or a thick white coating of the tongue. Try to wipe the white off with a clean gauge or cloth. The white patches of thrush will remain on the tongue.

Does the mother have pain while breastfeeding?
Look for Sore nipples? Engorged breasts or breast abscess?
The nipples may be sore and cracked. Engorged breasts are swollen, hard and tender.

Presence of a breast abscess is indicated additionally by localized redness and warmth.

3.2.5.1 Classification of Feeding Problems and Malnutrition

Infants who are Low Weight need special attention to how they are fed and on keeping them warm.

Based on an assessment of feeding and weight for age, a sick young infant may be classified into two categories:

1. FEEDING PROBLEM AND/OR LOW WEIGHT FOR AGE.
Infants with FEEDING PROBLEMS OR LOW WEIGHT FOR AGE are those infants who have any of the following :

- Not well attached to breast OR
- Not suckling effectively OR
- Less than 8 breastfeeds in 24 hours OR
- Receives other foods or drinks OR
- Low Weight or Age (WFA ≥ -3 SD and & < -2 SD) OR
- Thrush (ulcers or white patches in mouth) OR
- Breast or nipple problems

Appropriate counselling of the mother should be based on the identified feeding problem. Ensure follow-up for any feeding problem or thrush in two days and follow-up for low weight for age in 14 days.

2. Infants with **NO FEEDING PROBLEM OR NO LOW WEIGHT FOR AGE** are those who are breastfed exclusively at least eight times in 24 hours and whose weight is not classified as low weight for age there are no other signs of inadequate feeding. The young infant's weight is not necessarily normal for age but the infant is not in the high risk category.

3.2.6 CHECKING IMMUNIZATION STATUS

Immunization helps to protect young infants from infections that can be especially dangerous at a young age. Immunization status should be checked in all sick young infants. A young infant who is not sick enough to be referred to a hospital should be given the necessary immunizations before s/he is sent home.

Immunization Schedule			
Age	**Vaccines ***		
Birth	BCG**	OPV-0	Hepatitis B-0
6 weeks	Penta-I	OPV-I	PCV-I
***Vaccines should be given inline with the latest National EPI guideline. ****Young infants who are HIV positive or of unknown HIV status with symptoms consistent with HIV infection should NOT be given BCG.**			

3.2.7 THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE IN YOUNG INFANT NOT RECEIVING BREASTMILK

For those young infants who are not receiving breast-milk, you need to ask the following questions to assess the feeding:

- What milk are you giving?
- How many times during the day and night?
- How much is given at each feed?
- How are you preparing the milk?
- Let the mother demonstrate or explain how a feed is prepared, and how it is given to the infant.
- What foods and fluids in addition to replacement feeds are given?
- How is the milk being given? Cup or bottle?
- How are you cleaning the feeding utensils?

Determine the Weight for Age as described above and calculate SD in Z score chart.

Look for ulcers or white patches in the mouth (Thrush)
Classify as **VERY LOW WEIGHT FOR AGE** if they have:

- Less than 2000 gm (2 kg) in infants less than 7 days old or
- Weight for Age Z-score is <-3 SD in young infants 7-59 days old.

Infants who are **Very Low Weight for Age** should be referred to a hospital for Kangaroo Mother care. Advise the mother to keep the young infant warm on the way to hospital by KMC transport. Treat to prevent low blood sugar. Give pre-referral treatment as per the IMNCI Chart Book.

Classify as **FEEDING PROBLEM OR LOW WEIGHT** if the young non-breastfed infant is having:

- Milk incorrectly or unhygienically prepared OR
- Giving inappropriate replacement feeds OR
- Giving insufficient replacement feeds OR
- Using a feeding bottle OR
- Low Weight for Age (≥ -3 SD and < -2 SD) OR
- Thrush (ulcers or white patches in mouth)

They must be managed as per the treatment identified in the IMNCI Chart book.

Classify as **NO FEEDING PROBLEM** if not low for age (≥ -2 SD) and no other signs of inadequate feeding. They can be managed at home.

THEN CHECK FOR THE YOUNG INFANT'S IMMUNIZATION STATUS
Give all missed doses on this visit and advise the caregiver when to return for the next immunization.

3.2.8 ASSESS OTHER PROBLEMS

Check if the infant has received post-natal care and/or routine growth monitoring according to the MCH handbook.

ASSESS THE MOTHER'S HEALTH NEED
Check for nutritional status, anaemia, contraception, and check hygienic practices. Give Vitamin A 200,000 IU to the mother within 6 weeks of delivery, if she has not received it yet.

All sick young infants need to be assessed for other potential problems mentioned by the mother or observed during the examination. If a potentially serious problem is found or there is no means in the clinic to help the infant, s/he should be referred to hospital.

3.3 TREATMENT OF SICK YOUNG INFANTS

The first step is to IDENTIFY TREATMENT required for the young infant according to the classification. All the treatments required are listed in the "Identify Treatment" column of the ASSESS & CLASSIFY THE SICK YOUNG INFANT chart.

If a sick young infant has more than one classification, treatment required for all the classifications must be identified.

For some young infants, the ASSESS & CLASSIFY THE SICK YOUNG INFANT chart says "Refer URGENTLY to hospital." By hospital, we mean a health facility with inpatient beds, supplies and expertise to treat a very sick young infant. Referral may mean admission to the inpatient department of the same facility where the young infant has been examined as an outpatient.

3.4 REFERRAL OF YOUNG INFANTS AGE UPTO 2 MONTHS

All infants and children with a severe classification (pink) are referred to a hospital as soon as assessment is completed and necessary pre-referral treatment is administered.

Note: If an infant only has severe dehydration and no other severe classification, and IV infusion is available in the outpatient clinic, an attempt should be made to rehydrate the sick infant.

Successful referral of severely ill infants to the hospital depends on effective counselling of the caregiver. If s/he does not accept referral, available options (to treat the infant by repeated clinic or home visits) should be considered. If the caregiver accepts a referral, s/he should be given a short, clear referral note, and should get information on what to do during referral transport, particularly if the hospital is distant.

The first step is to give **urgent pre-referral treatment(s).** Possible pre-referral treatments include:

- First dose of intramuscular or oral antibiotics
- Keeping the infant warm on the way to the hospital
- Prevention of hypoglycemia with breastmilk or sugar water
- Frequent sips of ORS solution on the way to the hospital.

Non-urgent treatments, e.g., applying NFT ointment on skin pustules, should be deferred to avoid delaying referral or confusing the caregiver.

If an infant does not need urgent referral, check to see if the infant needs non-urgent referral for further assessment. These referrals are not as urgent. Other necessary treatments may be done before referral.

3.5 COUNSELLING A MOTHER OR CAREGIVER

USE GOOD COMMUNICATION SKILLS

It is important to have good communication with the infant's mother or caregiver from the beginning of the visit.
Ask and Listen to find out what the infant's problems are and what the mother is already doing for the infant.
Praise the mother for what she has done well.
Advise her how to care for her infant at home.
Check the mother's understanding.

ASK AND LISTEN TO FIND OUT WHAT THE INFANT'S PROBLEMS ARE AND WHAT THE MOTHER IS ALREADY DOING FOR HER CHILD

You have already learned the importance of asking questions to assess the infant's problems. Listen carefully to find out what the infant's problems are and what the mother is already doing for her child. Then you will know what she is doing well, and what practices need to be changed.

PRAISE THE MOTHER FOR WHAT SHE HAS DONE WELL

It is likely that the mother is doing something helpful for the infant, for example, breastfeeding. Praise the mother for something helpful she has done. Be sure that the praise is genuine, and only praise actions that are indeed helpful to the infant.

ADVISE THE MOTHER HOW TO CARE FOR HER CHILD AT HOME

Limit your advice to what is relevant to the mother at this time. Use language that mother will understand. If possible, use pictures or real objects to help explain. For example, show the amount of fluid in a cup or container.

Advise against any harmful practices that the mother may have used. When correcting a harmful practice, be clear, but also be careful not to make the mother feel guilty or incompetent. Explain why the practice is harmful.

Some advice is simple. For example, you may only need to tell the mother to return with the infant for follow-up in 2 days. Other advice requires that you teach the mother how to do a task. Teaching how to do a task requires several steps.

Think about how you learned to write, cook or do any other task that involves special skills. You were probably first given instruction. Then you may have watched someone else. Finally, you tried doing it yourself.

When you teach a mother how to treat an infant, use 3 basic teaching steps:

- Give **information**.
- Show **an example**.
- Let her **practice**.

Give information: Explain to the mother how to do the task. For example, explain to the mother how to prepare ORS.

Show an example: Show how to do the task. For example, show the mother a packet of ORS and how to mix the right amount of water with ORS.

Let her practice: Ask the mother to do the task while you watch. For example, have the mother mix ORS solution. It may be enough to ask the mother to describe how she will do the task at home.

Letting a mother practice is the most important part of teaching a task. If a mother does a task while you observe, you will know what she understands and what is difficult. You can then help her do it better. The mother is more likely to remember something that she has practiced than something that she has heard.

When teaching the mother:
Use words that she understands.
Use teaching aids that are familiar, such as common containers for mixing ORS solution.
Give feedback when she practices. Praise what was done well and make corrections.
Allow more practice, if needed.
Encourage the mother to ask questions. Answer all questions.

CHECK THE MOTHER'S UNDERSTANDING
Ask questions to find out what the mother understands and what needs further explanation. Avoid asking leading questions (that is, questions which suggest the right answer) and questions that can be answered with a simple yes or no.

Examples of good checking questions are: "What foods will you give your child?"

"How often will you give them?" If you get an unclear response, ask another checking question. Praise the mother for correct understanding or clarify your advice as necessary.

After you teach a mother how to treat her child, you want to be sure that she understands how to give treatment correctly. Checking questions to find out what a mother has learned.

An important communication skill is knowing how to ask good checking questions. A checking question must be phrased so that the mother answers more than "yes" or "no". Good checking questions require that she describe why, how or when she will give a treatment. From her answer you can tell if she has understood you and learned what you taught her about the treatment. If she cannot answer correctly, give more information or clarify your instructions. For example, you taught a mother how to give an antibiotic. Then you ask:

"Do you know how to give your infant his medicine?"
The mother would probably answer "yes" whether she understands or not. She may be embarrassed to say she does not understand. However, if you ask a few good checking questions, such as:
"When will you give your infant the medicine?" "How many tablets will you give each time?" "For how many days will you give the tablets?"
You are asking the mother to repeat back to your instructions that you have given her.
Asking good checking questions helps you make sure that the mother learns and remembers how to treat her infant.
The following questions check a mother's understanding. "Good checking

questions" require the mother to describe how she will treat her child. They begin with question words, such as why, what, how, when, how many, and how much. The "poor questions", answered with a "yes" or "no", do not show you how much a mother knows.
After you ask a question, pause. Give the mother a chance to think and then answer. Do not answer the question for her. Do not quickly ask a different question.

Asking checking questions requires patience. The mother may know the answer, but she may be slow to speak. She may be surprised that you really expect her to answer.
She may fear her answer will be wrong. She may feel shy talking to an authority figure.Wait for her to answer. Give her encouragement.

GOOD CHECKING QUESTIONS	POOR QUESTIONS
How will you prepare the ORS solution?	Will you be able to prepare the ORS solution?
How often should you breastfeed your child?	Should you breastfeed your child?
On what part of the eye do you apply the ointment?	Have you used ointment on your child before?
How much extra fluid will you give after each loose stool?	Do you know how to give extra fluids?
Why is it important for you to wash your hands?	Will you remember to wash your hands?

If the mother answers incorrectly or says she does not remember, be careful not to make her feel uncomfortable. Teach her how to give the treatment again. Give more information, examples or practice to make sure she understands. Then ask her good checking questions again.

A mother may understand but may say that she cannot do as you ask. She may have a problem or objection. Common problems are lack of time or resources to give the treatment. A mother may object that her sick infant was given an oral drug rather than an injection, or a home remedy rather than a drug.

Help the mother think of possible solutions to her problems and respond to her objections. For example, if you ask:
"What container will you use to measure 1 litre of water for mixing ORS?" The mother may answer that she does not have a 1-litre container at home. Ask her what containers she does have at home. Show her how to measure 1 litre of water in her container. Explain how to mark the container at 1 litre with an appropriate tool or how to measure 1 litre using several smaller containers.

When checking the mother's understanding:
Ask questions that require the mother to explain what, how, how much, how many, when, or why. Do not ask questions that can be answered with just a "yes" or "no".
Give the mother time to think and then answer.
Praise the mother for correct answers.
If she needs it, give more information, examples or practice

Counselling the mother or caregiver of a sick young infant includes the following essential elements:
Teach how to give oral drugs.
Teach how to treat local infection.
Teach how to manage breast or nipple problems.
Teach correct positioning and attachment for breastfeeding.
Counsel on other feeding problems.
Advise when to return.
Counsel the mother about her own health.

Teach how to give oral drugs
Oral drugs are given for different reasons, in different doses and on different schedules. However, the way to give each drug is similar. This section will give you the basic steps for teaching mothers to give oral drugs. If a mother learns how to give a drug correctly, then the child will be treated properly. Follow the instructions below for every oral drug you give to the mother.

3.6 DETERMINE THE APPROPRIATE DRUGS AND DOSAGE FOR THE CHILD'S AGE OR WEIGHT

Use the TREAT THE YOUNG INFANT pages of the chart booklet to determine the appropriate drug and dosage to give the infant.

TELL THE MOTHER THE REASON FOR GIVING THE DRUG TO THE CHILD, INCLUDING
why you are giving the oral drug to her child, and what problem it is treating.

DEMONSTRATE HOW TO MEASURE A DOSE
Collect a container of the drug and check its expiry date. Do not use expired drugs.
Count out the amount needed for the child. Close the container.

If you are giving the mother tablets:
Show the mother the amount to give per dose. If needed, show her how to divide a tablet. If a tablet has to be crushed before it is given to an infant, add a few drops of clean water and wait a minute or so. The water will soften the tablet and make it easier to crush.

If you are giving the mother syrup:
Show the mother how to measure the correct number of milliliters (ml) for one dose at home.Use the bottle cap or a common spoon, such as a spoon used to stir sugar into tea or coffee. Show her how to measure the correct dose with the spoon.
One teaspoon (tsp.) equals approximately 5.0 ml (see below).

MILLILITRES (ml)	TEASPOONS (tsp)
1.25 ml	¼ tsp
2.5 ml	½ tsp
5.0 ml	1 tsp
7.5 ml	1½ tsp
10.0 ml	2 tsp
15.0 ml	3 tsp.

Adjust the above amounts based on the common spoons in your area.

WATCH THE MOTHER PRACTICE MEASURING A DOSE BY HERSELF
Ask the mother to measure a dose by herself. If the dose is in tablet form and the infant cannot swallow a tablet, tell the mother to crush the tablet. Watch her as she practices. Tell her what she has done correctly. If she measured the dose incorrectly, show her again how to measure it.

ASK THE MOTHER TO GIVE THE FIRST DOSE TO HER INFANT
Explain that if an infant is vomiting, give the drug even though the infant may vomit it up. Tell the mother to watch the infant for 30 minutes. If the infant vomits within the 30 minutes (the tablet or syrup may be seen in the vomit), give another dose. If the infant is dehydrated and vomiting, wait until the child is rehydrated before giving the dose again.

EXPLAIN CAREFULLY HOW TO GIVE THE DRUG, THEN LABEL AND PACK THE DRUG
Tell the mother how much of the drug to give her infant. 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. Follow the steps below:
a. Write the full name of the drug and the total amount of tablets, capsules or syrup to complete the course of treatment.

b. Write the correct dose for the patient to take (number of tablets, capsules, squirts or spoonfuls, that is, ½, 1, 1½...). Write when to give the dose (early morning, lunch, dinner, before going to bed).

c. Write the daily dose and schedule, such as ½ tablet twice daily for 5 days.

d. Write the instructions clearly so that a literate person is able to read and understand them. Put the total amount of each drug into its own labelled drug container (an envelope, paper, tube or bottle). Keep drugs clean. Use clean containers. After you have labelled and packaged the drug, give it to the mother. Ask checking questions to make sure she understands how to treat her infant.

IF MORE THAN ONE DRUG WILL BE GIVEN, COLLECT, COUNT AND PACK EACH DRUG

Collect one drug at a time. Write the instructions on the label. Count out the amount needed. Put enough of the drug into its own, labelled, package. Finish packaging the drug before you open another drug container.

Explain to the mother that her child is getting more than one drug because he had more than one illness. Show the mother the different drugs. Explain how to give each drug. If necessary, draw a summary of the drugs and times to give each drug during the day.

EXPLAIN THAT ALL THE ORAL DRUG TABLETS OR SYRUPS MUST BE USED TO FINISH THE COURSE OF TREATMENT, EVEN IF THE INFANT GETS BETTER

Explain to the mother that if the infant seems better, she should continue to treat the infant. This is important because the bacteria may still be present even though the signs of disease are gone.

Advise the mother to keep all medicines out of the reach of children. Also tell her to store drugs in a dry and dark place that is free of mice and insects.

CHECK THE MOTHER's UNDERSTANDING BEFORE SHE LEAVES THE CLINIC

Ask the mother checking questions, such as: "How much will you give each time?" "When will you give it?" "For how many days?" "How will you prepare this tablet?" "Which drug will you give 3 times per day?"

If you feel that the mother is likely to have problems when she gives her infant the drug(s) at home, offer more information, examples and practice. A child needs to be treated correctly to get better.

In some clinics, a drug dispenser has the task of teaching the mother to give

treatment and checking the mother's understanding. If this is your situation, teach the skills you are learning in this section to that dispenser.

Teach the caregiver to treat local infections at home
Local infections include thrush, an umbilicus that is red or draining pus and skin pustules
When teaching a mother or caregiver, explain what the treatment is and why it should be given and describe the treatment steps. Watch the mother as she does the first treatment in the clinic and tell her how often to do the treatment at home. If needed for treatment at home, give mother a packet of nitrofuranzone ointment. Check the mother's understanding before she leaves the clinic.

Treat Skin Pustules or Umbilical Infection
For umbilical or skin infection, use Nitrofuranzone ointment thrice each day. Explain and demonstrate the treatment to the mother. Then watch her and guide her as needed while she gives the treatment. Ask her checking questions to be sure that she knows to give the treatment twice daily and when to return.

3.7 Teach correct positioning and attachment for breastfeeding

There are several reasons that an infant may be poorly attached or not able to suckle effectively. She/ He may have had bottle feeds, especially in the first few days after delivery. His/her mother may be inexperienced. Mother may have had some difficulty and nobody was available to help or advise her. For example, perhaps the infant was small and weak, the mother's nipples were flat or there was a delay in starting breastfeed.

The infant may be poorly positioned at the breast. Positioning is important because poor positioning often results in poor attachment, especially in younger infants. If the infant is positioned well, the attachment is likely to be good.

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

Poor positioning is recognized by any of the following signs:
- Infant's neck is twisted or bent forward
- Infant's body is turned away from mother
- Infant's body is not close to the mother, or

- Only the Infant's head and neck are supported

Baby's body close, facing breast

Baby's body away from mother, neck twisted

If in your assessment of breastfeeding you found any difficulty with attachment or suckling, help the mother position and attach her infant better. Make sure that the mother is comfortable and relaxed, for example, sitting on a low seat with her back straight. Then follow the steps in the treatment box.

Treat the young infant for feeding problem
Teach Correct Positioning and Attachment for Breastfeeding

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

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

Always observe a mother breastfeeding before you help her, so that you understand her situation clearly. Do not rush to make her do something different. If you see that the mother needs help, first say something encouraging, like:
“She/he really wants your breastmilk, doesn’t she/he?”
Then explain what might help and ask if she would like you to show her. For example, say something like,
“Breastfeeding might be more comfortable for you if your baby took a larger mouthful of breast. Would you like me to show you how?”

If she agrees, you can start to help her.

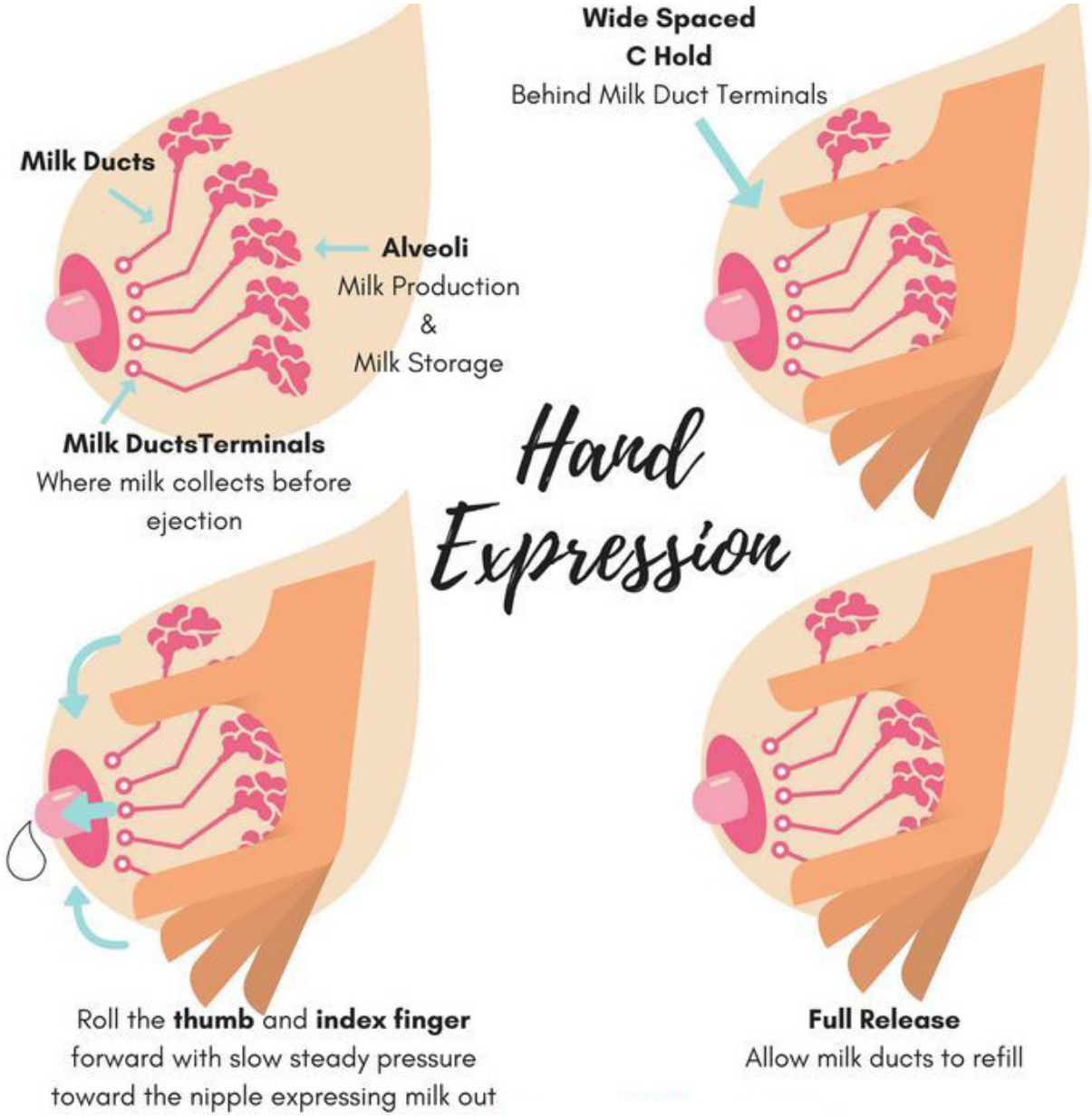
As you show the mother how to position and attach the infant, be careful not to take over from her. Explain and demonstrate what you want her to do. Then let the mother position and attach the infant herself.

Then look for signs of good attachment and effective suckling again. If the attachment or suckling is not good, ask the mother to remove the infant from her breast and to try again.

When the infant is suckling well, explain to the mother that it is important to breastfeed long enough at each feed. She should not stop breastfeeding before the infant wants to.

3.8 Teach the mother to express breast milk and feed with a cup and spoon

The mother should wash hands, sit comfortably and hold a cup or ‘katori’ under the nipple and areola. Place her finger on the top of the breast and the first finger on the underside of the breast so that they are opposite each other (at least 4 cm from the tip of the nipple). Compress and release the breast tissue between her finger and thumb a few times. If the milk does not appear, she should re-position her thumb and finger closer to the nipple and compress and release the breast as before, compress and release all the way round the breast, keeping her fingers the same distance from the nipple. She should be careful not to squeeze the nipple, to rub the skin or move her thumb or finger on the skin. Express one breast until the milk just drips, and then express the other breast until the milk just drips. Alternate 5 –6 times between breasts for at least 20-30 minutes to express both breasts completely.



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For feeding the baby small amounts of the expressed breast milk are taken into the spoon and directly poured from the angle of the mouth. One must wait for the baby to swallow the milk before more milk is poured into the mouth.

Teach the mother to feed with a cup and spoon

- Place the young infant in upright posture (feeding him in lying position can cause aspiration)
- Keep a soft cloth napkin or cotton on the neck and upper trunk to mop the spilled milk
- Gently stimulate the young infant to wake him up

- Put a measured amount of milk in the cup
- Hold the cup so that it rests lightly on young infant's lower lip
- Tilt the cup so that the milk just reaches the infant's lips
- Allow the infant to take the milk himself and swallow it. DO NOT pour the milk into the infant's mouth.

Treat thrush with Nystatin paste
Teach the mother to treat thrush with Nystatin oral paste on white patches. Tell the mother that her infant will start feeding normally sooner if she paints the mouth ulcers in her infant's mouth. Ask her to use a clean cloth or a cotton-tipped stick to point gentian violet on the mouth ulcers and put a small amount of gentian violet on the cloth or stick. Tell the mother the frequency and duration of treatment.

Show to the mother how to apply nystatin paste to the infant's mouth. Ask the mother to practice. Watch her paint the rest of the mouth with Nystatin oral paste. Comment on the steps she did well and those that need to be improved.

Give the mother a bottle of Nystatin oral paste to take home. Before the mother leaves, ask checking questions. If she anticipates any problems providing the treatment, help her to solve them.

3.9 Teach the mother to manage breast and nipple problems

During the first few weeks after birth, breast and nipple problems can be important causes of feeding problems and poor growth in young infants. Some of the common problems are flat or inverted nipples, sore nipples or breast abscess in the mother.

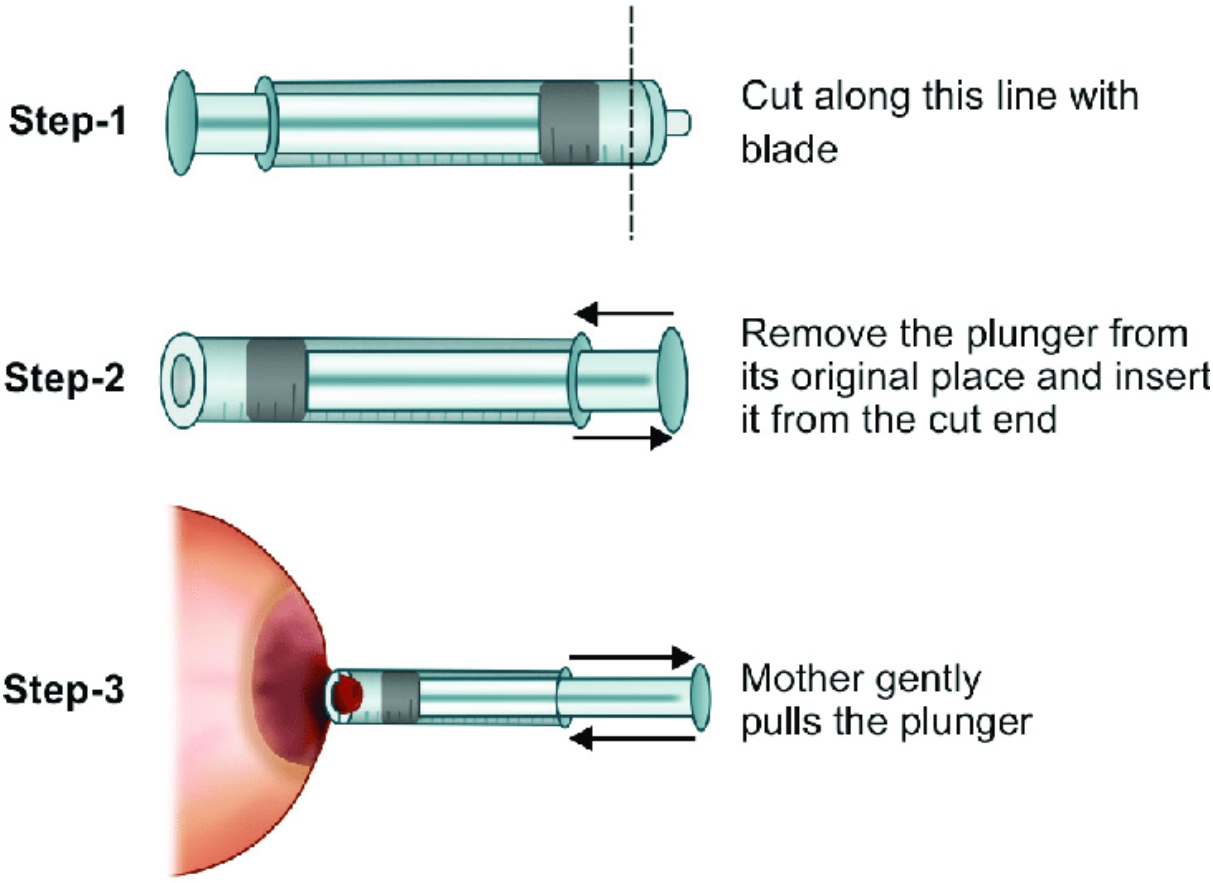
Flat or inverted nipples: If the mother has flat or inverted nipples, the baby can have difficulty in attaching to the breast, which can result in decreased lactation and poor weight gain in the infant. The nipple should be everted with fingers before the infant is put to breast during a feed. This will help the infant to attach well onto the breast. After a few days the nipples will remain everted.

Demonstrate to the mother how to use syringe pump
Show the mother the syringe, and explain how you cut off the adaptor end of the barrel.

- Put the plunger into the cut end of the barrel (that is, the reverse of its usual position).
- Use a model breast, and put the smooth end of the barrel over the nipple.
- Gently pull the plunger to maintain steady but gentle pressure.

- Do this for 30 seconds to 1 minute, several times a day.
- Push the plunger back to decrease the suction, if she feels pain. (This prevents damaging the skin of the nipple and areola.)
- Push the plunger back, to reduce suction, when she wants to remove the syringe from her breast.
- When the nipple stands out, put the baby on the breast.

Syringe method for correction of inverted nipple



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Sore nipples: Sore nipples are almost always due to poor attachment of the infant onto the mother's breast. The mother should be helped to ensure that attachment and positions are correct. To alleviate the discomfort due to soreness, the mother should be advised to apply breast milk on the affected nipple. If the baby's sucking causes a lot of discomfort to the mother in spite of correct positioning, the mother

should be advised to express the breast milk and feed it with a cup and spoon to the infant, till she is once again able to breastfeed the infant without much discomfort (this would usually take about 1-2 days).

Engorged breasts and Breast abscess: Engorged breasts are swollen, hard and tender. Breast abscess is often due to breast engorgement and rarely due to primary infection of the breast. The mother should be encouraged to feed from the unaffected breast and referred to a health facility for treatment of the abscess. If the amount of milk from a single breast is inadequate, then undiluted animal milk with added sugar can be fed with a cup and spoon.

3.10 Counselling about other Feeding Problems

If a mother is breastfeeding her infant less than 8 times in 24 hours, advise her to increase the frequency of breastfeeding. Breastfeed as often and for as long as the infant wants, day and night.

If the infant receives other foods or drinks, counsel the mother about breastfeeding more, reducing the amount of the other foods or drinks, and if possible, stopping altogether.

Advise her to feed the infant any other drinks from a cup, and not from a feeding bottle.

If the mother does not breastfeed at all, consider referring her for breastfeeding counselling and possible re-lactation. If the mother is interested, a breastfeeding counsellor may be able to help her to overcome difficulties and begin breastfeeding again.

Advise a mother who does not breastfeed about choosing and correctly preparing dairy/locally appropriate animal milk. Also advise her to feed the young infant with a cup, and not from a feeding bottle.

Follow-up any young infant with a feeding problem in 2 days. This is especially important if you are recommending a significant change in the way the infant is fed.

- Teach the mother how to keep the young infant with low weight warm at home:
  - » Do not bathe young infant with low weight or low body temperature; instead sponge with lukewarm water to clean
  - » Provide Skin to Skin contact (Kangaroo mother care) as much as possible, day and night
- When Skin to Skin contact not possible:

» Keep the room warm (>25 °C) with a home heating device

» Clothe the baby in 3-4 layers; cover the head, hands and feet with cap, gloves and socks, respectively

» Let the baby and mother lie together on a soft, thick bedding

» Cover the baby and the mother with an additional quilt, blanket or shawl, especially in cold weather

FEEL THE FEET OF THE BABY PERIODICALLY– BABY'S FEET SHOULD BE ALWAYS WARM TO TOUCH

3.11 Advise Mother to Give Home Care & When to Return

- Home care advice includes the following:
  - » Immediately after birth, the baby should be put on the mother's abdomen for skin to skin contact.
  - » Initiate breastfeeding within one hour of birth.
  - » Breastfeed day and night as often as your baby wants, at least 8 times in 24 hours. Frequent feeding produces more milk.
  - » If your baby is small (low birth weight), feed him or her at least every 2-3 hours. Wake the baby for feeding after 3 hours, if she or he does not wake self.
  - » Breastfeed as often as your child wants.
  - » Look for signs of hunger, such as beginning to fuss, sucking fingers, or moving lips.
  - » DO NOT give other foods or fluids. Breast milk is all your baby needs.

Make sure the young infant stays warm at all times. In cool weather, cover the infant's head and feet and dress the infant with extra clothing.

To breastfeed the infant frequently, as often and as long as the infant wants, day and night, during sickness and health. Advise mother to wash hands with soap and water before feeding, after defecation and after cleaning the bottom of the baby. Advise the mother not to apply anything on the cord and keep the cord and umbilicus dry.

Also teach the mother when to return immediately. Teach the mother these signs. Use local terms that the mother can understand. Circle the signs that the mother must remember. Ask her checking questions to be sure she knows when to return immediately.

3.11.1 FOLLOW-UP CARE

A. When to Return Immediately

Advise the mother to return immediately if the young infant has any of these signs:

- Irritable
- Vomits everything
- Convulsions
- Reduced activity or lethargy
- Breastfeeding poorly
- Becomes sicker
- Develops a fever
- Feels unusually cold
- Fast breathing
- Difficult breathing
- Palms and soles appear yellow
- Blood in stool

B. For follow-up visit

If the young infant has:	Return for the follow up in:
• Jaundice • Local Bacterial infection • Feeding problem • Thrush • Diarrhea	2 days
• Low weight for age	14 days

Advise when to return for the next immunization according to the immunization schedule. If the child does not have a new problem, use the IMNCI follow-up instructions for each specific problem:

- Assess the child according to the instructions;
- Use the information about the child's signs to select the appropriate treatment;
- Give the treatment.

IMNCI chart booklet contains detailed instructions on how to conduct follow-up visits for different diseases. Follow-up visits are recommended for young infants who are classified as:

- Pneumonia
- Local bacterial infection
- Jaundice
- Diarrhoea with some dehydration
- Feeding problem or Low weight

3.12 COUNSEL THE MOTHER ABOUT HER OWN HEALTH

After the assessment, classification and treatment of the young infant has already been performed listen for any problems that the mother herself may be having. The mother may need treatment or referral for her own health problem.

Follow-up visits and regular postnatal visits should be coordinated. Try and schedule the visit of the young infant and mother together.

Emphasize that postnatal visit is a good opportunity to provide advice and care to the mother and young infant.

If the mother is sick, provide care for her, or refer her for help. Also, if the sick young infant is still breastfed, help the mother to breastfeed her young infant. If a mother looks depressed or stressed, advise her to take help from the nearest health center or any other hospital providing counseling/psychiatric services.

Advise her to eat well to keep up her health. Counsel the breastfeeding mother to have at least three meals per day of balanced diet rich in protein, vegetables and fruits.

Make sure she has access to:

- Family planning services – advise her to avoid the next pregnancy for at least 2-3 years.
- Counselling on STI and HIV prevention.

3.13 Recording Forms

MANAGEMENT OF SICK CHILD AGED 2 MONTHS UPTO 5 YEARS FORM

Name of the Health Facility:_____ Reg./UHID/CID no. _____

Name of the child:_____ Age/sex:____ Weight_____ kg. Height/Length:_____CM. Temp:_____ °C/°F

ASK: What is the child's problem:_____. Initial visit:_____ Follow-up visit:_____ Date_____

ASSESS (Circle all signs present)	CLASSIFY
CHECK FOR GENERAL DANGER SIGN • Check for general danger sign • Not able to drink or breastfeed • Vomits everything • Convulsions • Lethargic or unconscious • Convulsing now **General danger sign present?** Yes ____ No ____	
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes __ No __ • 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 • Check SpO_2: >90% Yes__No__ OR <90% Yes__No__	
DOES THE CHILD HAVE DIARRHOEA? Yes __ No __ • For how long? ____ Days • Is there blood in stool? Yes____ No____ • Look at the child's general condition. Is the child: » Lethargic or unconscious? » Restless or irritable? • Look for sunken eyes • Offer the child fluid. Is the child: » Not able to drink or drinking poorly? » Drinking eagerly,thirsty? • Pinch the skin of the abdomen. Does it go back? » Very slowly (longer than 2 seconds)? » Slowly?	
DOES THE CHILD HAVE FEVER? **(by history/feels hot/temperature 37.5 °C/99.5°F or above) Yes ____ No____** Decide malaria risk: High/Low/No • Decide malaria risk: High/Low/No • For how long? ____ Days • If more than 7 days, has fever been present every day? • Has child had measles within the last 3 months? • Travel history in the malaria area within the last 30 days? • Do a malaria test, if NO SEVERE FEBRILE DISEASE classification : in all cases in high malaria risk or NO obvious cause of fever in low malaria risk or travel history to malaria area: • Test POSITIVE? P. falciparum P. vivax • NEGATIVE? • Look or feel for stiff neck • Look for any bacterial cause of fever • Look for signs of MEASLES: » Generalized rash and » One of these: cough, runny nose, or red eyes	

If the child has measles now or within the last 3 months:

- Look for mouth ulcers. If yes, are they deep and extensive?
- Look for pus draining from the eye
- Look for clouding of the cornea

DOES THE CHILD HAVE EAR PROBLEM Yes _____ No _____

- Is there ear pain?
- Is there ear discharge? If Yes, for how long? _____ Days
- Look for pus draining from the ear
- Feel for tender swelling behind the ear

THEN CHECK FOR ACUTE MALNUTRITION:

- Look for oedema of both feet
- Determine WFH/L Z-score
  - » <-3 SD?
  - » ≥-3 SD and <-2 SD?
  - » ≥-2 SD ?
- Child 6 months or older measure MUAC _____ cm

If child has WFH/L <-3 SD or MUAC <11.5 cm:

- Is there any medical complications?
  - » Any general danger sign
  - » Any severe classification
  - » Pneumonia with chest indrawing
- Child less than 6 months: Is there a breastfeeding problem?

THEN CHECK FOR ANAEMIA

- Look for palmar pallor. Is it:
  - » Severe palmar pallor?
  - » Some palmar pallor?

THEN CHECK FOR POSSIBLE TUBERCULOSIS:

ASK:

- Cough ≥2 weeks
- Unexplained fever ≥2 weeks
- Not gaining wt. in infant
- Unexplained wt. loss in spite of adequate nutrition
- H/O contact with PTB in same household

Look, listen & feel for:

- Painless enlarged lymph nodes
- Unexplained ascites
- Moderate malnutrition (Z-score ≥-3 SD and <-2 SD?) or MUAC 11.5cm to 12.4cm) Yes____No____

CHECK THE CHILD'S IMMUNIZATION STATUS
(Tick if already immunized & circle immunizations needed today)

BCG	PENTA-1	PENTA-2	PENTA-3	IPV-2	MMR-1	MMR-2	Vitamin A
OPV-0	OPV-1	OPV-2	OPV-3		PCV-3	DTP	Albendazole
Hep B-0	PCV-1	PCV-2	IPV-1				

Return for next immunization on:
_____
(Date)

ASSESS FEEDING PROBLEM (if the child is less than 2 years old, has MODERATE ACUTE MALNUTRITION or ANAEMIA)

- Do you breastfeed your child? Yes __No _ If yes, how many times in 24 hours? ____ times
- Do you breastfeed during the night? Yes __No __
- Does the child take any other foods or fluids? Yes __No __
  - » A- What food or fluids? _____
  - » B- How many times per day? ____ times
  - » C- What do you use to feed the child? _____
- If moderate acute malnutrition: how large are servings? _____
  - » A- Does the child receive his own serving? Yes__No__
  - » B-Who feeds the child and how? _____
- During this illness, has the child's feeding changed? Yes ____ No ____
- If Yes, how? _____

FEEDING PROBLEMS

Yes__ No__

ASSESS OTHER PROBLEM: Yes__No__. If yes	ASK ABOUT MOTHER HEALTH: Is she healthy? Yes ___ No ___
TREATMENT AND ADVICES (Home care, etc...)	
ANY COUNSELLING IF GIVEN (Feeding, VCT, Immunization, etc...)	
FOLLOW UP ADVICE ACCORDING TO THE CASE (Write no. of days)	
EXPLAIN WHEN TO RETURN IMMEDIATELY	
Signature & Name of Health Worker:	

MANAGEMENT OF THE SICK YOUNG INFANT AGED UP TO 2 MONTHS FORM	
Name of the Health Facility:_____ Reg./UHID/CID no. _____ Name of the child:_____ Age/sex:____ Weight____ kg. Height/Length:____CM. Temp:____ °C/°F ASK: What is the child's problem:_____. Initial visit:_____ Follow-up visit:_____ Date:_____	
ASSESS (Circle all signs present)	**CLASSIFY**
CHECK FOR SEVERE DISEASE AND LOCAL BACTERIAL INFECTION:	
• Is the infant having difficulty in feeding? • Has the infant had convulsions(fits)? • Count the breaths in one minute._____ breaths per minute. Repeat if elevated_____ » Fast breathing? • Look for severe chest in drawing • Fever (Temperature 37.5°C/99.5°F or above) or low body temperature (below 35.5°C/95.9°F) • Movement only when stimulated or no movement at all? • Listen for grunting • Look for skin pustules. Are there many or severe pustules? • Look for skin pustules. Are there <10 or >10 (severe skin pustules)? • Look at the umbilicus. Is it red or draining pus? Redness extending up to the skin? • Look for ear discharge • Check skin colour: » Severely pale; Yes__No____ » Cynosis; Yes__No____ » SpO_2; <90% Yes____No____ OR >90%; Yes__ No__ • Look for eye discharge	
THEN CHECK FOR JAUNDICE: • When did the jaundice appear first? _____ (age in days)	**LOOK:** • Look for jaundice (yellow eyes or skin) • Look at the young infant's palms and soles. Are they yellow? • Colour of stool: Pale? Yes__No__ • TCB reading: » > cutoff as per age; Yes__No__ » < cutoff as per age Yes__No__	
DOES THE YOUNG INFANT HAVE DIARRHOEA? Yes ____ No ____ • How long did the child have diarrhoea?____days • Is there blood in stool? Yes____ No____	• Look at the young infant's general condition. Does the infant: • Move only when stimulated? • Does not move at all? • Is the infant restless and irritable? • Look for sunken eyes • Pinch the skin of the abdomen. Does it go back » Very slowly (longer than 2 seconds)? » Slowly?	

THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE:
(If the infant has no indication to refer urgently to hospital)

- Is the infant breastfed? Yes ___ No ___ If yes, how many times in 24 hours? _____ times
- Does the infant usually receive any other foods or drinks? Yes __ No __ If yes, how often? _____
- What do you use to feed the child? _____
- Determine weight for age. Low ___ Not low ___
- Weight<2 kg in young infants <7days? Yes_____ No_____
- Determine weight for age (WFA):
  - » <-3 SD in young infants age 7-59 days
  - » ≥-3 SD and <-2 SD
  - » ≥-2 SD
- Look for ulcers or white patches in the mouth

ASSESS BREAST FEEDING

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

- Has the infant breastfed in the previous hour?
  Yes ___ No ___
- Does the mother have pain while breastfeeding? If yes Look and Feel for:
  - » Flat or inverted nipples or sore nipples
    Yes__ No_____
  - » Engorged breast or breast abscess
    Yes___ No_____
- Is the infant able to feed? Able__ Not able___
- Is the infant well attached? To check attachment, look for
  - » Chin touching breast: Yes__ No__
  - » Mouth wide open: Yes_____ No__
  - » Lower lip turned outward: Yes__ No__
  - » More areola above than below the mouth: Yes___ No__
    - ◆ Not well attached
    - ◆ Good attachment
- Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)?
  - ◆ Not suckling effectively
  - ◆ Suckling effectively

CHECK THE CHILD'S IMMUNIZATION STATUS (Tick if already immunized & circle the immunizations needed today)

- BCG
- OPV-0
- Hep B-0
- PENTA 1 200,000IU vitamin A to mother within 6
- OPV-1 weeks of delivery.
- PCV-1

Return for next immunization on:
_____
(Date)

ASSESS OTHER PROBLEM:
Yes_____No_____If yes.....

ASK ABOUT THE MOTHER'S HEALTH. Is the mother's health good?
Yes_____ No_____ If no. _____

ANY COUNSELING IF GIVEN(Feeding,VCT, Immunization, etc)

FOLLOW UP ADVICE ACCORDING TO THE CASE (Write no. of days)
EXPLAIN WHEN TO RETURN IMMEDIATELY
Signature & Name of Health Worker:

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