Indira Gandhi National Open University
SCHOOL OF HEALTH SCIENCE

CHO-0002

Primary Health Care in Common Conditions

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन
राजस्थान



New Born and Child Health Care

4

Indira Gandhi National Open University
SCHOOL OF HEALTH SCIENCE

CHO-0002

Primary Health Care in Common Conditions

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन
राजस्थान

New Born and Child Health Care

4

ignou
THE PEOPLE'S
UNIVERSITY

Indira Gandhi
National Open University
School of Health Sciences

CHO-0002
Primary Health Care in Common Conditions

Block

4

NEWBORN AND CHILD HEALTH CARE

UNIT 1
Essential Care of Newborn at Birth 5

UNIT 2
Management of Common Neonatal and Child Health Problems 19

UNIT 3
Integrated Management of Neonatal and Childhood Illness 49

UNIT 4
Introduction to Rashtriya Bal Swasthiya Karyakaram 132

UNIT 5
Universal Immunisation Programme 145

Appreciation of Collaborative Efforts

The development of this Training Module for Community Health Officers (CHOs) is the result of a collaborative effort led by the Department of Medical, Health & Family Welfare, Government of Rajasthan, with valuable technical support from development partners. We sincerely thank all Directors, Project Directors, State Nodal Officers, and technical partners including Jhpiego, WHO, UNICEF, UNFPA, UNDP, IPE Global, IPAS, Evidence Action, JSI and others for their contributions. Their expertise, evidence-based inputs, and field insights have ensured the relevance and quality of this resource. This module aims to strengthen CHOs' capacity to deliver comprehensive, people-centered care at the community level, advancing our shared goal of improved health outcomes for all.

Acknowledging Contributors

The table below highlights the key contributors who played a critical role in the module's development, coordination, technical review, and partner support:

Coordination Committee

Dr. Rommel Singh (AD-Plan)	Ms. Shibumi Prem (Regional PO, Jhpiego)
Ms. Rachana (District Program Officer-NHM)	Dr. Manoj Sharma (Nursing Tutor)

OICs

Dr. Mushtaq Khan (SNO-MNJY)	Dr. Tarun Chaudhary (PD-MH)
Dr. Praveen Aswal (AD-RH)	Dr. Surendra Singh Shekhawat (PD-FW)
Dr. Pradeep Kr. Choudhary (PD- CH)	Dr. Mukesh Digarwal (PD-RKSK/RBSK & AD Ayush)
Dr. S.M. Swami (SNO-NMHP)	Dr. Raghraj Singh (PD-Immunization)
Dr. Nirmala Sharma (Deputy Director Malaria)	Sh. Rajendra Bhakher (Demographer, NHM)

Responsible Partner Coordinators

Mr. Arun Vashisht (NHM, Jaipur)	Ms. Karuna Singh (IPAS)
Dr. Zakariya Chouhan (WHO)	Mr. Devi Prasad Verma (IPAS)
Dr. Rashi Gupta (Jhpiego)	Ms. Manjri Singh (UNICEF)
Ms. Dande Venkata Sireesha (Jhpiego)	Dr. Kapil Agarwal (UNICEF)
Dr. Eshvita Bhadoo (Jhpiego)	Mr. Krishan Gopal Soni (UNFPA)
Dr. Pradeep Chaudhary (NIPI)	Mr Siyaram Sharma (UNFPA)
Ms. Pricella Bassin (IPE Global)	Dr. Abhay Bora (JSI)
Ms. Molshree Rathore (Evidence Action)	Mr. Mudit (UNDP)

CURRICULUM DESIGN COMMITTEE AND EXPERT COMMITTEE

Prof. (Dr.) Pity Koul
Director and Programme Coordinator
Dr. R.S Salhan
Additional DGHS (Retd.) Advisor, NHSRC, New Delhi
Dr. R.K Srivastava
Former DGHS, Govt. of India New Delhi
Dr. Suneela Garg
Sub Dean & Head Dept. of Community Medicine, MAMC , New Delhi
Dr. Amarjeet Singh
Professor, Dept. of Community Medicine PGIMER, Chandigarh
Dr. Subodh. S. Gupta
Professor, Dept. of Community Medicine, MGIMS, Sevagram, Wardha
Mrs. Santosh Mehta
Principal, RAK College of Nursing, Lajpat Nagar, New Delhi
Dr. Prakasamma
Former Director, National Academy of Nursing Studies and Woman Empowerment (ANSWER) Hyderabad
Dr. Sushma Kumari Saini
National Institute of Nursing Education (NINE) PGIMER, Chandigarh. (U.T)
Dr. Sanjay Rai
Associate Professor Department of Community Medicine, AIIMS, New Delhi
Dr. Himanshu Bhushan
Advisor, NHSRC, New Delhi
Dr. Rajni Ved
Advisor, NHSRC, New Delhi
Dr. Dilip Singh
Advisor, NHSRC, New Delhi
Dr. Vinay Bothra
Sr, Consultant, NHSRC
Dr. Sumitha Chalil
NHM, MoHFW, New Delhi
Dr. Reeta Devi
Assist. Prof. (Sr. Scale) & programme Coordinator
Mrs. Rohini Bhardwaj Sharma
Assist. Prof. IGNOU

CURRICULUM DESIGN COMMITTEE

Prof. (Dr.) Pity Koul
Director and Programme Coordinator
Dr. R.S Salhan
Additional DGHS (Retd.) Advisor, NHSRC, New Delhi
Dr. R.K Srivastava
Former DGHS, Govt. of India New Delhi
Dr. Suneela Garg
Sub Dean & Head Department of Community Medicine, MAMC, New Delhi
Dr. Amarjeet Singh
Professor, Medicine PGIMER,Chandigarh
Dr. Subodh. S. Gupta
Professor, MGIMS, Sevagram, Wardha
Mrs.Santosh Mehta
RAK College of Nursing, Lajpat Nagar, New Delhi
Dr. Prakasamma
National Academy of Nursing Studies and Woman Empowerment (ANSWER) Hyderabad
Dr. Sushma Kumari Saini
National Institute of Nursing Education (NINE) PGIMER, Chandigarh. (U.T)
Dr. Sanjay Rai
Associate Professor Department of Community Medicine, AIIMS, New Delhi
Dr. Rajni Ved
Advisor, NHSRC, New Delhi
Dr. Vinay Bothra
Sr, Consultant, NHSRC
Dr. Sumitha Chalil
NHM, MoHFW, New Delhi
Dr. Reeta Devi
Assist. Prof. (Sr. Scale)
Mrs. Rohini Bhardwaj Sharma
Assist. Prof. IGNOU

BLOCK PREPARATION TEAM

Writers

Unit-1 **Prof. (Lt. Col.) Rekha Gupta**
Ex-Principal c/o Sun Sign Apartments Gwalior, M.P
Prof. Pity Koul
Director, SOHSIGNOU, New Delhi

Unit-2 **Dr. Subodh. S. Gupta**
Professor, Dept. of Community Medicine MGIMS, Sevagram, Wardha

Unit-3 **Ms. Rohini Sharma**
Assistant Professor SOHS, IGNOU, New Delhi

Unit-4 **Dr. Nanthini Subiah**
Professors NIHFW Associate New Delhi

Unit-5 **Dr.Rajesh Kumar**
Professor MAMC, Dept. of Community Medicine New Delhi-2

Editors
Dr. Manju Vatsa
Principal, Pediatric Nursing, AIIMS New Delhi
Prof. (Dr.) Pity Koul
Director and Programme Coordinator
Unit Transformation and format editing Prof. (Dr.) Pity Koul
Director and Programme Coordinator
Dr. Reeta Devi
Assist. Prof. (Sr. Scale) & Programme Coordinator

COURSE REVIEW COMMITTEE

Dr. Rajesh Kumar
Prof. & Head, Dept. of Community Medicine, PGIMER, Chandigarh
Dr. Suneela Garg
Sub Dean & Head
MAMC, Departmant of Community medicine, New Delhi
Dr. Himanshu Bhushan
Advisor, NHSRC, New Delhi
Dr. A.K. Sood
Prof. & Dean of Educations & Training, NIHFW, New Delhi
Dr. Prabir Chatterjee
SHRC, Chattisgarh
Dr. S.B Sinha
Advisor HCT, NHSRC
Dr. M.M.Singh
Director & Professor MAMC, Community Medicine, New Delhi
Dr. Jugal Kishore
Director Professor VMMC, Safdarjung Hospital, New Delhi
Dr. Najam Khalique
Department of Community Medicine AMU, Uttar Pradesh
Dr. Dilip Singh Mairembam
Advisor, NHSRC, New Delhi
Dr. Manju Rani
WHO
Dr. Radhika Gupta
Consultant, NHSRC
Dr. Vinay Bothra
Sr, Consultant, NHSRC
Faculty SOHS, IGNOU
Prof. (Dr.) Pity Koul
Director and Programme Coordinator
Dr. Reeta Devi
Assist. Prof. (Sr. Scale) & programme Coordinator
Mrs. Rohini Bhardwaj Sharma
Assist. Prof.
Brig.(Dr) Kanchan Sharma (Retd.)
Senior Consultant, IGNOU
R.K. Puram, New Delhi

CO-ORDINATION

Prof. (Dr.) Pity Koul
Director & Programme Coordinator
School of Health Sciences, IGNOU, New Delhi

Dr. Reeta Devi
Asstt. Professor. (Sr. Scale) & Programme Coordinator
School of Health Sciences, IGNOU, New Delhi

PRODUCTION

Mr. T.R. Manoj
Assistant Registrar (P)
SOHS, IGNOU, New Delhi

May, 2017
© *Indira Gandhi National Open University, 2016*
ISBN :
All rights reserved. No part of this work may be reproduced in any form, by mimeograph or any other means, without permission in writing from the Indira Gandhi National Open University.
Further information about the School of Health Sciences and the Indira Gandhi National Open University courses may be obtained from the University's office at Maidan Garhi, New Delhi-110 068.

Printed and published on behalf of the Indira Gandhi National Open University, New Delhi by **Prof. Pity Koul, Director**, School of Health Sciences.

We acknowledge the reference of material and figures from various sources like NNF, AIIMS, WHO, UNICEF, IGNOU, Govt. of India etc.

Laser Typesetting and Printed at : **Rajasthan State Cooperative Press Ltd., Jaipur**

BLOCK INTRODUCTION

As a Mid-level Health Care Provider, you are expected to provide comprehensive primary health care at the subcentre to newborns and children, so that you can prevent mortality and morbidity among them. You need to develop appropriate knowledge and skills to provide essential newborn care, effective child care, identify danger signs, make appropriate referrals, and provide follow-up care. You also need to develop skills in implementing various National Schemes and Programmes related to Newborn and Child Care in terms of integrated management of Neonatal and Childhood illness, Rashtriya Bal Swathya Karyakaram, Universal Programme etc.

The focus of this block is on Essential Newborn Care, Child Care, and identification Management among Newborn and Children, problems, appropriate referral and follow-up care. This will help you to save many deaths among newborns and children.

This block consists of the five units as given below:

Unit 1 Essential Care of newborns at Birth

Unit 2 Management of Common Neonatal and Child Health Problems

Unit 3 Integrated Management of Neonatal and Childhood Illness

Unit 4 Introduction to Rastriya Bal Swasthya Karyakaram

Unit 5 Universal Immunisation Programme

You are expected to take prompt action in caring for newborns and children.

UNIT 1 ESSENTIAL CARE OF NEWBORN AT BIRTH

Structure

1.0 Introduction

1.1 Objectives

1.2 Care of Newborn Baby

- 1.2.1 Immediate Care of a Normal Newborn at the Time of Birth
- 1.2.2 Routine Care at Birth

1.3 Routine Care of Baby after Delivery

- 1.3.1 Postnatal Environment
- 1.3.2 Breastfeeding
- 1.3.3 Warmth
- 1.3.4 Cord Care
- 1.3.5 Maintain Hygiene
- 1.3.6 Identify Danger Signs

1.4 Transport of Newborn Baby

1.5 Common Accidents and Mishaps in Labour Room

1.6 Dos and Don'ts

1.7 Let Us Sum Up

1.8 Model Answers

1.9 References

1.0 INTRODUCTION

Health of the newborn baby depends upon the overall health of the mother and appropriate antenatal care and regular follow up. Institutional delivery plays a vital role in preventing and minimizing the complications related to delivery process and reducing neonatal mortality and morbidity. You can play a key role in conducting safe delivery, providing essential Newborn care at birth and preventing neonatal deaths and complications related to labour. Good liasoning with the ANM and ASHA workers of your area and follow up visits to antenatal cases will ensure 100% institutional deliveries in your area.

In this unit you will learn and review care of the newborn, routine care of normal Newborn at birth and after delivery, transport of Newborn baby, common accidents and mishaps in labour room and Do's and Don'ts Before studying this unit you may refer Block 2 Unit 5, Postnatal care of this Course.

1.1 OBJECTIVES

After completing this unit, you should be able to:

- Explain the essential care of the newborn baby at birth;
- Discuss the steps of routine care of the newborn after the birth;

- Identify the danger signs of a Newborn baby
- Describe common accidents and mishaps in the labour room.

1.2 CARE OF NEWBORN BABY

The care at birth has a major influence on the survival, future health, and wellbeing of a newborn infant. You have already learnt about newborn care in Block 5, Unit 2 and 5 of these courses. Let us review as given below.

1.2.1 Immediate Care of a Normal Newborn at the Time of Birth

- As soon as baby is born you need to perform following activities:
  - **Call out the time of birth and sex of the baby and show the baby** to the mother. Ensure that details are recorded.
  - **Deliver the baby on the mother's abdomen** in a prone position with face to one side.
  - **If the baby is not crying or not breathing,** resuscitate the Newborn. The procedure of resuscitation is given in BNSL-043 Block 6, Unit 1.
  - **If the baby is crying,** delay cord clamping for 1-3 mins before cutting.
  - **Dry baby with a pre-warmed towel while over mother's breast.** Immediately dry the baby but if secretions are present suction first and then dry (this will prevent aspiration as drying itself is stimulation for a baby to breath). Remember to suction mouth first and then nose to prevent aspiration Blood or meconium on the baby's skin should be wiped away; however, the white greasy substance covering the baby's body (vernix) should not be wiped off. Because this vernix helps to protect the baby's skin and gets reabsorbed within few hours.
  - **Wipe both the eyes with sterile swab.** Clean the eyes using sterile gauze/ cotton. Use separate gauze for each eye. Wipe from the medial side (inner canthus) to the lateral side (outer canthus).
  - **Encourage breastfeeding.** Breastfeeding should be initiated within half an hour of birth in all babies.
  - **Check cord for any oozing of blood.**
  - **Place an identity wrist band on the baby,** this helps in easy identification of the baby and avoiding any confusion. The label should be placed on the wrist or ankle.
  - **Cover the baby's head with a cap and cover the mother and baby with a warm cloth/sheet.** Both the mother and the baby should be covered with a warm cloth, especially if the delivery room is cold (temperature less than 25°C). Since head is the major contributor to the surface area of the body, a newborn baby's head should be covered with a cap to prevent loss of heat.
  - **Give the baby an injection of vitamin K.**
  - **Weigh the baby and record the weight.**
  - **Check for any congenital malformations.**

Remember:

- The Labour Room must be warm (maintain room temperature in the range 25-28ºC) to avoid hypothermia
- Assess the baby's breathing; if the baby is not breathing or has difficulty in breathing, initiate resuscitation
- Dose of vitamin K in neonates with birth weight <1000 g - 0.5 mg IM
- Dose of vitamin K in neonates with birth weight >1000 g - 1.0 mg IM

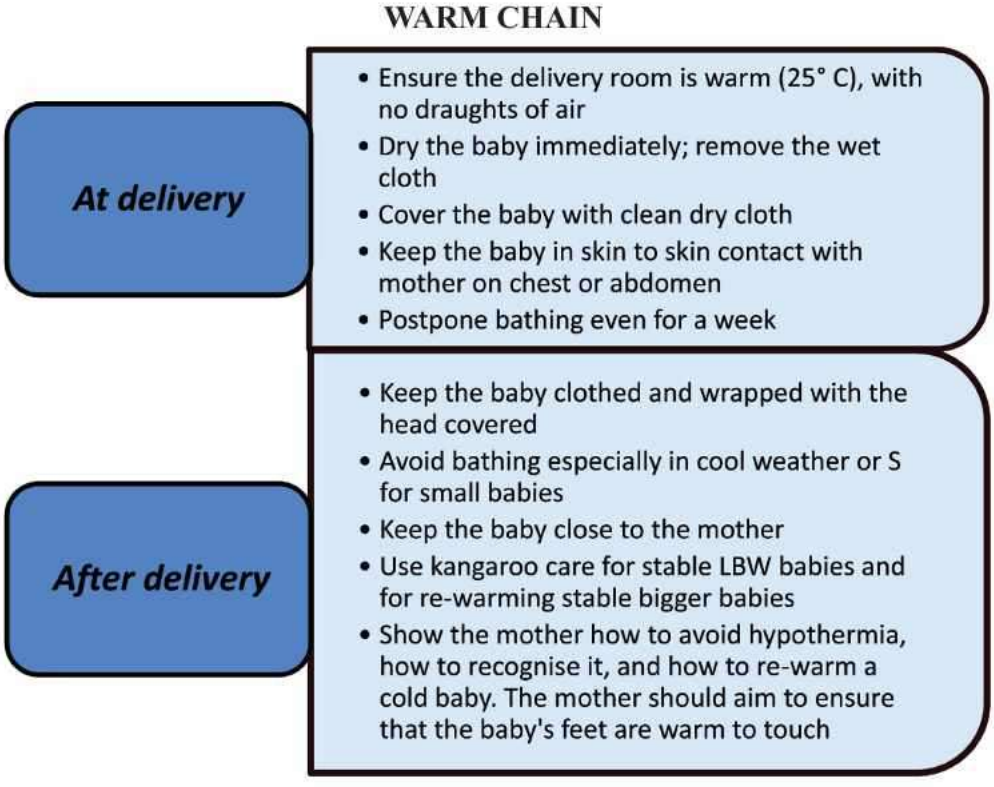
1.0.1 Routine Care at Birth

Following steps are important for providing routine care to newborn at birth.

Ensuring Warmth: Maintain 'Warm Chain'

A baby's skin temperature falls within seconds of being born. If the temperature continues to fall, the baby will become ill and may even die. This is why a baby MUST be dried immediately after birth and delivered onto a warm towel or piece of cloth, and loosely wrapped before being placed naked between the mother's breasts or over abdomen.

Keeping the baby between the mother's breasts ensures that the baby's temperature is kept at the correct level for as long as the skin contact continues. This first **skin-to-skin** contact should last uninterrupted for at least **one hour after birth or until after the first breastfeed.** The mother and baby should be covered with a warm and dry cloth, especially if the room temperature is lower than 25°C. You should maintain warm chain; it means that the temperature maintenance should be a continuous process starting from the time of delivery and continued till the baby is discharged from the hospital. The components of warm chain are summarized below. (Fig. 1.1)



Maintaining Normal Breathing

You should ensure to assess breathing of baby at the time of drying. If the baby is crying vigorously or breathing adequately (chest is rising smoothly at a rate of 40 to 60 times per minute), then no intervention is needed. However, if the baby is not breathing or is gasping, then baby may need initial steps of resuscitation, positive pressure ventilation etc. These steps are explained in Practical Course BNSL-043, Block 6, Unit 1.

Initiating Breastfeeding

The breastfeeding is initiated within half an hour to one hour after birth. During the initial skin-to-skin contact position after birth, the baby should be kept between the mother's breasts. This would ensure early initiation of breastfeeding. Initially, the baby normally rests and would be asleep. This rest period may vary from a few minutes to 30 or 40 minutes **(remember each baby is different and this period might vary)** before the baby shows signs of wanting to breastfeed. After this period, the baby will usually open his/her mouth and start to move the head from side to side; he may also begin to dribble. These signs indicate that the baby is ready to breastfeed. Baby may also try reaching the breast by making directed movements - called 'Breast Crawl' The mother should be helped in feeding the baby once the baby shows these signs. You should keep both the mother and the baby in a comfortable position. The baby will be put next to the mother's breasts with his mouth opposite to the nipple and areola. The baby should attach to the breast by itself when it is ready. When the baby is breastfeeding, attachment and positioning should be checked and help the mother to breastfeed her baby accurately and adequately. If in the initial first feeding session baby does not latch, do not give any liquid other than breast milk (or colostrum) even if baby does not feed. Most of the babies are ready to take feed within 30 minutes to one hour. The procedure of counselling and support for breastfeeding are explained in Unit 3, Block 2, (BNS-041) and (BNSL-043), Block 6, Unit 4.

Prevention of Infections: Maintain 'Clean Chain'

Babies are secure when they are in mothers' womb. However, after birth, they must be protected from the adverse environment of the surroundings. Cleanliness at delivery reduces the risk of infection for the mother and baby, especially neonatal sepsis, and tetanus. Cleanliness requires mothers, families, and health professionals to avoid harmful traditional practices, and prepare necessary materials. Hand washing is the single most important step to be emphasized to both family members and health care workers.

Like warm chain, 'Clean chain' must be followed both at the time of delivery and then till the time of discharge to protect the infant from infections. The components of the clean chain are summarised below in Fig. 1.2.

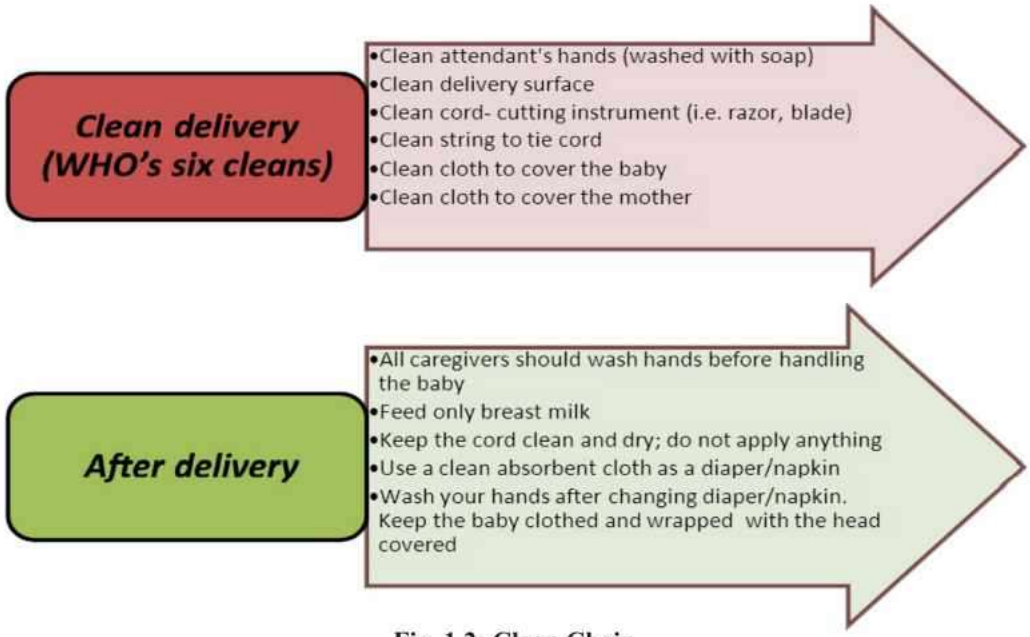


Fig. 1.2: Clean Chain

Cord and Eye Care

We will begin with cord care

Cord care

The umbilical cord can be clamped-cut and tied (according to local custom) while the baby is on the mother's abdomen or on a warm, clean, and dry surface. The steps of clamping, cutting the cord and its care after cutting are given below:

Care of the umbilical cord

- Put the baby on mother's abdomen or chest or on a warm, clean, and dry surface close to the mother.
- Change gloves; if not possible, wash gloved hands.
- Put ties (using a sterile tie) tightly around cord at 2 cm and 5 cm from the abdomen.
- Cut between the ties with a sterile instrument (e.g. Blade).
- Remove blood or meconium by wiping with clean cloth.
- Observe for oozing blood. If blood oozes, place a second tie between the skin and first tie.
- Do not apply any Substance to the Stump.
- Leave stump exposed and nothing should be applied or placed on it.
- If stump is soiled, wash it with clean water and dry with a clean cloth.

Eye Care

Eye care is given to protect a baby's eyes from infection. In areas where sexually transmitted diseases are common, eye care is needed soon after delivery because infections such as gonorrhea can be passed to the baby during the birthing process, which can result in blindness. Both eyes should be gently wiped with separate sterile swabs soaked in warm sterile water from medial to the lateral side.

Eye drops (whenever indicated) or ointment should be given. This can be done after the baby has been dried or when he is being held by his mother. After instilling the eye drops, care should be taken so that the drug is not washed away.

Weigh the Baby

Weighing helps identify babies at a higher risk of death.

- 2500 grams may require special care to prevent low body temperature
- 2000 grams should receive prolonged skin-to-skin
- 1500 grams will need referral.

Examine the Baby

A complete examination should be performed within 60 minutes after birth. The details of the examination are given in Unit 2 of this block.

- Count the number of breaths during one minute.
- Observe the movement of the limbs when awake, their position when not moving, and their tone.
- Observe the skin color.
- Inspect the following body areas for abnormalities: head, face, mouth and palate, chest, abdomen, genitalia, anus, limbs, and skin.

A well-baby should have the following characteristics

- Normal temperature, warm to touch, pink with Weight > 2.5 kg
- Breathe easily at 40– 60 breaths/minute
- Move arms and legs equally when active and rest with limbs flexed

Explain to the mother the examination findings to allay her concern. Document in Case record and ask her to inform you in case any other concerns develop subsequently.

Give Vitamin K

Vitamin K will protect babies from serious bleeding.

Give vitamin K by intramuscular (IM) injection 1.0 mg for every newborn (0.5 mg for <1000 gms). Encourage mothers to breastfeed their baby during the injection for comfort.

Monitoring the Baby

During the first hour after delivery, the baby and the mother should be monitored every 15 minutes. Both should remain in the delivery room for the first hour to facilitate monitoring.

The three most important parameters that you need to monitor are as follows

a) **Breathing**

b) **Temperature or warmth**

c) **Color**

You should monitor these three parameters every 15 minutes in the first hour after birth of the baby.

Check Your Progress 1

i) List the steps of warm chain at delivery and after delivery.

.....

ii) Write the dose of vitamin K in new born.

.....

iii) Write the components of clean chain (six clean) at delivery and after delivery.

.....

1.3 ROUTINE CARE OF BABY AFTER DELIVERY

A postnatal room should be kept warm with "no draughts of air" from open doors or windows. A temperature of at least 25°C is required to keep a baby warm. Often, a radiant heater, blower, or other devices for providing warmth are necessary to maintain the appropriate room temperature especially in winter months. A mother and her baby should be kept together from birth (in bed or very near to each other). This helps the mother to get to know her baby and form an early close loving relationship (bonding); she can also respond quickly when her baby wants to feed, which helps establish breastfeeding.

1.0.1 Postnatal Environment

- Ensure that the room is warm with air currents (at least 25oC)
- Keep mother and baby close together in same room and same bed
- Provide bed nets to sleep

1.0.2 Breastfeeding

- Support exclusive breastfeeding **on demand** day and night at least 8 times.
- Ask the mother to **get help** if there is a breastfeeding difficulty.
- **Assess** breastfeeding in every baby **before** planning for **discharge.**
- If the mother reports a breastfeeding difficulty, assess breastfeeding and help her with attachment and positioning.
- DO NOT discharge the baby if breastfeeding is not established.

1.0.1 Warmth

You must provide warmth to the newborn baby at the time of birth to prevent hypothermia due to heat loss. The newborn losses heat by four ways i.e. evaporation, conduction, radiation, and convection. (Fig. 1.3)

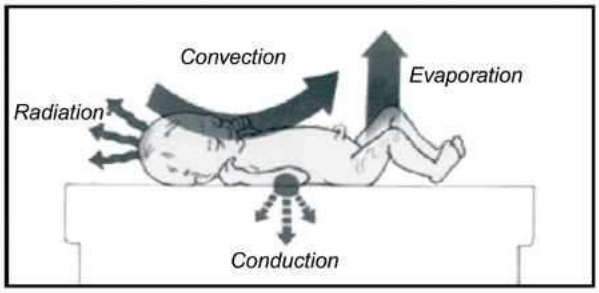


Fig. 1.3: Ways of heat loss in Newborn.

At the time of birth, you should prevent heat loss by drying, wrapping, skin to skin contact and breastfeeding as shown in Fig. 1.4 a, b, c.



a) Drying



b) Wrapping



c) Skin to skin contact and breastfeeding

Fig. 1.4 (a-c): Preventing Heat loss at birth

The essential steps in preventing heat loss and maintaining the normal temperature in a newborn baby are given in Table 1.1.

Table 1.1: Preventing heat loss in Newborn.

Evaporation: It involves the loss of heat when a liquid is converted to a vapor i.e. when amniotic fluid evaporates from the skin, the heat is lost through moisture. **How to prevent**: • Keep infant dry • Remove wet nappies • Minimize exposure during baths	 **Fig. 1.5: Drying at birth**

Conduction: It involves the loss of body heat to cooler objects which come in direct contact with baby's skin i.e. when the baby is placed naked on a cooler surface, such as table, weighing scales, cold bed/ sheets.

How to prevent:

- **Put the baby on pre warmed sheet**
- **Cover weighing scales**
- **with warm towel or blanket**

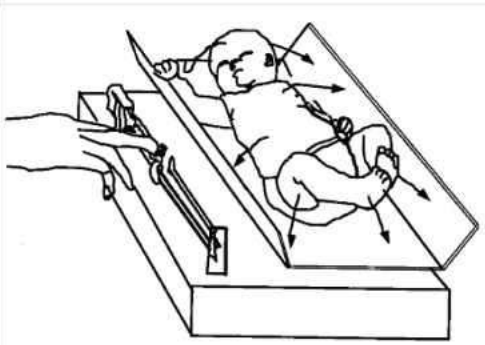


Fig. 1.6: Weighing at birth

Convection: It involves the flow of heat from body surface to cooler surrounding air or to air circulating over body surface. When the baby is exposed to cool surrounding air or to a draught from open doors and windows or a fan. Heat is lost by moving air currents e.g., infant who is adequately warmed but pla ced under the fan, near open window especially in winter months. Opening of doors and windows replaces warm air around infant with cold air.

How to prevent:

- Do not expose the infant to increased air flow e.g., under fan, near windows, ventilator, near door which is frequently being opened.
- Keep the infant adequately clothed including hands and feet.
- Transport the infant in a well-protected cane basket/, crib.
- Restrict the entry of people in the room where infant is kept.
- Do not keep infant's cot very close to the walls and, window.

Radiation: It involves loss of Infant's body heat to cooler object that are not directly in contact with him i.e. when the baby cot is placed near cool objects, walls, tables, cabinets, ventilating units without being in contact with them.

How to prevent: Fig 1.7

- Keep baby cot away from cold, outside walls, almirah
- Maintain room temperature at 25°C
- Cover the baby if stable

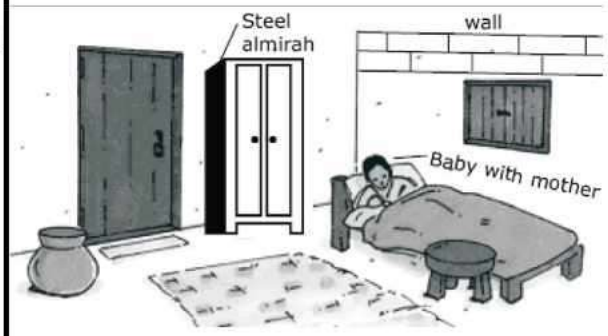


Fig. 1.7: Baby inside room

1.3.4 Cord Care

Keep the cord healthy by providing daily care

- Wash hands before and after cord care.
- Put NOTHING on the stump.
- Fold the nappy (diaper) below the level of the stump.
- Keep the cord stump loosely covered with clean clothes.

- If the stump is soiled, wash it with clean water and soap. Dry it thoroughly with a clean cloth.
- Look for signs of infection (daily)
    - Pus discharge from the cord stump
    - Redness around the cord, especially if there is swelling
    - High temperature (more than 37.5°C) or other signs of infection
- Explain to the mother that she should seek care if the umbilicus is red or draining pus or blood.

1.3.5 Maintain Hygiene

Provide day-to-day care to ensure hygiene.

- Wash the face, neck, and underarms of the baby daily.
- Bathing the baby can be postponed till a week. In case of small babies, bathe only after the baby reaches a weight of 2000 g.
- If bath is given ensure following:
    - Room is warm and there is no draught while changing clothes, washing and bathing
    - Use warm water for bathing
    - Thoroughly dry the baby, dress, and cover after bath
- Take extra precautions if the baby is small
- Wash the buttocks when soiled and dry thoroughly.
- Use cloth diaper on baby's bottom to collect stool. Wash hands after disposing stool.
- Do not apply 'Kajal' on eyes.

1.3.6 Identify Danger Signs

It is important that you as a health workers can recognize the signs and symptoms which indicate that the baby is not well ('DANGER SIGNS') and help the mother and care giver to recognize danger signs. Early recognition of the danger signs will help in identifying those babies who need urgent care and treatment.

- Not feeding well
- No movement
- Fast breathing (more than 60 breaths per minute)
- Moderate or severe chest in-drawing
- Jaundice on day 1 or palms or sole stained yellow any age
- Abnormal movements
- Fever (temperature >37.5°C)
- Temperature <35.5°C or not rising after re-warming

Check Your Progress 2

i) List the steps of routine care after birth.

.....

.....

ii) List the danger signs of the newborn.

.....

.....

1.4 TRANSPORT OF NEWBORN BABY

If there is any danger sign as discussed in the foregoing section baby will require to be shifted to the NICU in the District hospital for prolonged ventilator support under an aseptic environment. Call for a well-equipped advanced cardiac ambulance or the available source of Transport. Ensure that the baby is stabilized and IV lines are fixed well. Mother may also accompany the baby during transport.

ENSURE THAT TRAINED COLLEAGUE ACCOMPANIES THE BABY IN THE AMBULANCE.

The transportation process is initiated well in time, the moment you know that the baby is not doing well. Last-minute efforts should be avoided to save time. Ideally, the cardiac ambulance is always ready at standby in many places

1.5 COMMON ACCIDENTS AND MISHAPS IN LABOUR ROOM

Less confidence, loss of self-control in an emergency, overconfidence, and a lethargic attitude lead to many mishaps and accidents in the labour room. These are listed below.

The baby is dropped or slipped while receiving immediately after birth. This happens due to poor grip and utter carelessness.

Aspiration of amniotic fluid if suction is not done adequately. This happens when one is in a 'hurry' or is less experienced.

The bleeding cord is noticed sometimes quite late, when bradycardia sets in. This happens due to a loose tie or the Whartons jelly has squeezed off (inexperienced hands).

1.6 DOS AND DON'TS

You should be able to follow the dos and don'ts as given below:

DO'S

Certain steps should never be missed.

- High-risk cases should be identified well before labour starts.

- High-risk cases should be identified well before labour starts.You should be ready to receive apneic baby in the apparently normal antenatal case.
- Wipe the oral cavity of the baby as soon as the head is delivered.
- Keep the baby dry always.
- Tie the cord at two places and tight enough.
- Look for the number and placement of umbilical vein (one, at the top position and bigger in diameter) and umbilical artery (two in number, placed lower to vein one on either side or smaller in diameter) in the umbilical cord. This is the clue for possible internal congenital anomaly.
- Place the identification tag as soon as breathing is established.
- Do the neonatal assessment follow the order of breathing, Heart Rate, and color.
- Initiate breastfeeding as soon as possible.
- Ensure asepsis throughout the resuscitation.

DON'TS -

- There are certain things which should never be done by you.
- Do not leave the door and windows of the labor room open.
- Do not do nasal suction before oral suction.
- Do not apply anything on the cord stump.
- Do not Ambu bag the baby if suspecting diaphragmatic hernia.
- Do not give tactile stimulation more than twice.
- Do not waste single second in the assessment and resuscitation.

Check Your Progress 3

i) List the few common accident and mishaps in labour room.

.....

.....

1.7 LET US SUM UP

In this unit you have learnt about the immediate care of newborn baby at the time of birth and routine care after birth in a normal baby which includes keeping the airway patent, preventing heat loss, providing warmth to the baby, breast feeding and care of cord, skin, and eyes. You have also learnt about common mishaps in labor room. Transport of newborn and dos and don'ts has also been discussed at the end. You should always remember to monitor three important parameters i.e. breathing, temperature and color.

1.8 MODEL ANSWERS

1) At Delivery

- Ensure the delivery room is warm (25° C), with no draughts of air

- Dry the baby immediately and remove the wet cloth
- Cover the baby with clean dry cloth
- Keep the baby in skin-to-skin contact with mother on chest or abdomen
- Postpone bathing/sponging for at least 6 hours or next day

After Delivery

- Keep the baby clothed and wrapped with the head covered
- Avoid bathing especially in cool weather or for small babies
- Keep the baby close to the mother
- Use kangaroo care for stable LBW babies and for re-warming stable bigger babies
- Show the mother how to avoid hypothermia, how to recognize it, and how to re-warm a cold baby. The mother should aim to ensure that the baby's feet are warm to touch.

i) Vitamin K injection 1.0 mg (IM) for every newborn and (0.5 mg for <1000 gms).

ii) Clean Chain at Delivery

- Clean attendant's hands (washed with soap)
- Clean delivery surface
- Clean cord- cutting instrument (i.e. razor, blade)
- Clean string to tie cord
- Clean cloth to cover the baby
- Clean cloth to cover the mother

After Delivery

- All caregivers should wash hands before handling the baby
- Feed only breast milk
- Keep the cord clean and dry; do not apply anything
- Use a clean absorbent cloth as a diaper/napkin
- Wash your hands after changing diaper/napkin. Keep the baby clothed and wrapped with the head covered

Check Your Progress 2

1) A postnatal room should be kept warm with "no draughts of air" from open doors or windows. A temperature of at least 25°C is required to keep a baby warm. Often, a radiant heater, blower, or other devices for providing warmth are necessary to maintain the appropriate room temperature especially in winter months. A mother and her baby should be kept together from birth (in bed or very near to each other). This helps the mother to get to know her baby and form an early close loving relationship (bonding); she can also respond quickly when her baby wants to feed, which helps

2) Not feeding well
   a. No movement
   b. Fast breathing (more than 60 breaths per minute)
   c. Moderate or severe chest in-drawing
   d. Jaundice on day 1 or palms or sole stained yellow any age
   e. Abnormal movements
   f. Fever (temperature >37.5°C)
   g. Temperature <35.5ºC or not rising after re-warming

Check Your Progress 3

(i) Less confidence, loss of self-control in emergency, overconfidence lethargy attitude leads to many mishaps and accidents in labor room. For example, to count few-

Baby is dropped or slipped while receiving immediately after birth, this happens due to poor grip and utter carelessness.

Suctioning is not done adequately and baby aspirates amniotic fluid. This happens when one is in 'hurry' or less experienced.

The cord is bleeding which is noticed sometimes quite late when bradycardia sets in. This happens due to loosen tie or the Whartons jelly has squeezed off (again inexperienced hand).

1.9 REFERENCES

1) Essential newborn care course, WHO HQ's 2009.
2) Postnatal Care of the mother & newborn, WHO HQ's recommendations 2013.
3) Standard Treatment Protocols for management of common newborn conditions at small hospitals, WHO SEARO 2013.
4) Teaching Aids on Newborn Care: Deorari AK (Ed), 3rd Edition, 2005, New Delhi. Publication of National Neonatology Forum of India.
5) Care of the Newborn Reference Manual, May 2003. Saving Newborn Lives Initiative, Save the Children, USA.

UNIT 2 MANAGEMENT OF COMMON NEONATAL AND CHILD HEALTH PROBLEMS

Structure

2.0 Introduction

2.1 Objectives

2.2 Triage

2.3 Common Neonatal Problems

- 2.3.1 Meconium Passage
- 2.3.2 Urine Passage
- 2.3.3 Regurgitation of Milk
- 2.3.4 Transitional Stools
- 2.3.5 Toxic Erythema of the Newborn
- 2.3.6 Vaginal Discharge and Bleeding
- 2.3.7 Breast Engorgement
- 2.3.8 Neonatal Jaundice
- 2.3.9 Perianal Rashes
- 2.3.10 Caput Succedaneum
- 2.3.11 Cephalhematoma

2.4 Managing Skin Infections

- 2.4.1 Scabies
- 2.4.2 Pediculosis
- 2.4.3 Pityriasis (Tinea) Versicolor
- 2.4.4 Staphylococcal and Streptococcal Infections
- 2.4.5 Herpes Simplex
- 2.4.6 Varicella Zoster (Chicken pox)

2.5 Managing Ear, Eye and Throat Problems

- 2.5.1 Middle Ear Infection
- 2.5.2 Eye Infection - Conjunctivitis
- 2.5.2 Throat Infection Pharyngitis and Tonsillitis
- 2.5.3 Foreign Body in Ear, Nose and Throat

2.6 Worm Infestation

2.7 Febrile Seizure

2.8 Poisoning

- 2.8.1 Ingestion of Poisonous Substance
- 2.8.2 Skin Contamination by Poisonous Substance
- 2.8.3 Eye Contamination by Poisonous Substances
- 2.8.4 Inhalation of Poisonous Substance
- 2.8.5 Health Education for Prevention of Poisoning

2.9 Injuries and Accidents

- 2.9.1 Primary Assessment and Management of Injuries and Accidents
- 2.9.2 Management of a Case of Burn
- 2.9.3 Management of a Case of Drowning
- 2.9.4 Management of a Case of Electrocution

2.10 Insect and Animal Bite
2.10.1 Management of a Case of Snake Bite
2.10.2 Management of a Case of Scorpion/ Honey Bee Bite
2.10.3 Management of a Case of a Bite by a Dog /Cat/ Wild Animal
2.11 Let Us Sum Up
2.12 Model Answers
2.13 References

2.0 INTRODUCTION

Newborn baby is a special group of babies who require skilled care to prevent mortality and morbidity. Children in their younger age are very susceptible to get ill, mostly with infectious diseases. Most of these illnesses can be managed by primary health care not only in the sub-centers or PHCs, but also in the home itself. But most important part is early identification of the illness after understanding the clinical feature of the disease. When a child presents to a health care provider, the most important step is the triage which child must be referred and who can be treated. A child is not a miniature adult. Therefore, health care providers need to understand the special needs of children. As children differ from adults, many times, parents get worried for what is normal for a child. Therefore, it is also important for health care providers to understand what is normal in a child.

For management of common childhood illnesses, Integrated Management of Neonatal & Childhood Illnesses (IMNCI) is covered in Unit 3 briefly. This unit will focus on a short practical description of triage, despite being covered in IMNCI. The management of benign neonatal conditions. At the end we will cover the management of other common childhood diseases not included under IMNCI such as various skin infections such as scabies, pediculosis, pityriasis versicolor, staphylococcal, and streptococcal infection and Managing Ear, Eye and Throat problems, Worm infections, Febrile seizure, Poisoning, Injuries and accident and Insect and animal bite.

2.1 OBJECTIVES

After completing this unit, you should be able to:

- Explain triage and screening of children as Triage.
- list common neonatal and childhood problems;
- discuss signs and symptoms of common neonatal and childhood problems;
- describe management of various childhood problems; and
- List the preventive measures to prevent various accidents, injuries, and poisoning in children.

2.2 TRIAGE

The word "triage" came from the French word "trier," which means to separate or select. Triage is the process of rapidly screening sick children soon after they arrive in the hospital, to identify the cases with:

- Emergency signs that require immediate emergency treatment;

- Priority signs, who should be given priority in the queue so that they can be assessed and treated without delay; and
- Non-urgent cases, which have neither emergency nor priority signs.
- Triage helps in the rational allocation of limited resources when demand exceeds availability.

Emergency signs include the following:

- obstructed or absent breathing
- severe respiratory distress
- central cyanosis (blueness of the whole-body)
- signs of shock (cold hands, capillary refill time longer than 3 s, high heart rate with weak pulse, and low or unmeasurable blood pressure)
- coma (or seriously reduced level of consciousness)
- convulsions
- signs of severe dehydration in a child with Diarrhoea (lethargy, sunken eyes, very slow return after pinching the skin or any two of these).

Children with these signs require immediate emergency treatment to avert death.

Priority signs include:

- Tiny infant (< 2 months)
- Very high body temperature
- Trauma or urgent surgical condition
- Severe pallor
- History of poisoning
- Severe pain
- Respiratory distress
- Restless, continuously irritable, or lethargic
- Malnutrition: visible severe wasting
- Oedema of feet or face
- Burns (major)

The priority signs identify children who are at higher risk of dying. These children should be assessed without unnecessary delay. If a child has one or more emergency signs, one should not spend time looking for priority signs.

Ideal time for doing triage:

- As soon as the sick child arrives in the health clinic/ the health staff visits the home
- It should be done before any administrative procedures like registration and all are carried out.

Place for carrying out the triage

- Triage can be carried out anywhere- from the health clinic/sub-center to the home of the child

Examination for birth defects

It is important that each newborn baby is examined comprehensively for presence of birth defects soon after birth (maximum within the first 48 hours). For this purpose, a full physical examination needs to be conducted from head to toe. This has been discussed in BNSL-043, Block 6 Unit 2 "Assessment of Newborn"

Check Your Progress 1

i) List priority signs that require immediate treatment to avert death.

.....

.....

ii) Write time and place for carrying out triage.

.....

.....

2.3 COMMON NEONATAL PROBLEMS

Parents observe their babies carefully and are often worried about minor physical peculiarities and problems, which may not be of serious consequences. Therefore, parents must be adequately informed and appropriately advised regarding minor neonatal and childhood problems to prevent undue anxiety.

2.3.1 Meconium Passage

More than 90% of the neonates pass meconium by 24 hours of age. If meconium is not passed by 24 hrs. and/or has associated vomiting and/or abdominal distension, anal patency should be checked by passing a nasogastric tube into the anal canal. In case, resistance is felt in passage of nasogastric tube, the baby should be referred to higher center for investigation for anorectal anomalies and intestinal obstruction. It should be remembered that some babies might have passed urine and/or stool in labor room immediately after delivery but mother might not be aware.

2.3.2 Urine Passage

More than 90% of the newborns void by 24 hours of age and almost all void by 48 hrs. Common causes of delay in voiding are perinatal asphyxia, limited fluid intake due to poor feeding, increased fluid losses due to radiant warmers and increased environmental temperature. If there is failure to pass urine for 48 hrs., the baby needs to be referred to higher facility for further investigation and management.

2.3.3 Regurgitation of Milk

Most of the neonates take out a small amount of curdled milk soon after feeding. Child is usually active and vomitus is never yellow or green colored and baby looks healthy.

The mother needs to be reassured that it is not pathological and usually occurs among normal babies. Burping after feed may help babies with this problem.

2.3.4 Transitional Stools

Transitional stools are the loose, yellow-green watery stools passed on the second or third day of life. They typically appear when mother's milk starts to come in and increased amounts of lactose are secreted in the breast milk. Thus, they are a good sign that mother's milk is starting to come in. The greenish hue is caused by the presence of meconium, the tarry fetal stool which is first passed after birth. The frequency of stools is increased up to 10-15 in a day and usually decreases by 10 days of life. Transitional stools require no treatment, only assurance to the family members.

2.3.5 Toxic Erythema of the Newborn

This is a common and benign self-limited disorder of the newborn requiring no treatment. It is also known as Erythema toxicum or Erythema toxicum neonatorum (Fig. 2.1). It affects almost half of all full-term newborn infants, but is less common in infants born prematurely. Most cases of toxic erythema of the newborn begin in the first few days after birth, although sometimes the onset can be as late as two weeks of age. The toxic erythema presents as combinations of erythematous macules (flat red patches), papules and pustules. The eruption waxes and wanes over several days. The erythema often begins on the face and spreads to the trunk and limbs. Palms and soles are usually not affected. Rash disappears spontaneously in 1-3 days. It requires no treatment, only assurance to the family members.

Although toxic erythema of the newborn is a benign condition requiring no treatment, other conditions with similar presentation (e.g. skin infections and prickly heat) should be excluded.



Fig. 2.1: Toxic Erythema of the newborn

2.3.6 Vaginal Discharge and Bleeding

Because of maternal hormones, most newborn girls will have a mucous discharge from the vagina sometimes vaginal bleeding that last for a few days. The bleeding is a form of withdrawal bleeding that occurs as the estrogen passed to the infant by the mother begins to disappear. This is normal and does not require any treatment. Only reassurance to the parents is required.

2.3.7 Breast Engorgement

Full term babies of both sexes may develop engorgement of breasts on the third or fourth day of life. A white or creamy white liquid may also ooze from the nipples. It is

due to trans placentally acquired maternal hormones. It normally lasts less than a week. Family members should be advised not to compress or manipulate the breasts, as this may cause infection.

2.3.8 Neonatal Jaundice

Jaundice is a yellow discoloration of the skin and eyes caused by hyperbilirubinemia (elevated serum bilirubin concentration) Fig. 2.2. Jaundice during the neonatal period is caused by lysis of red blood cells. The serum bilirubin level required to cause jaundice varies with skin tone and body region, but jaundice usually becomes visible on the sclera at a level of 2 to 3 mg/dL (34 to 51 mol/L) and on the face at about 4 to 5 mg/dL (68 to 86 mol/L). With increasing bilirubin levels, jaundice seems to advance in a head-to-foot direction, appearing at the umbilicus at about 15 mg/dL (258 mol/L) and at the feet at about 20 mg/dL (340 mol/L).

Slightly more than half of all neonates become visibly jaundiced in the first week of life. Total serum bilirubin peaks at age 3-5 d (later in Asian infants). In more than 90% of all the neonates, jaundice is physiological and does not need any specific therapy. Physiological jaundice typically appears between 24 to 72 hours of age, reaches its peak on 4th - 5th day of life and usually disappears before 14 days of life.

About 5-10% of newborn babies develop pathological jaundice or hyperbilirubinemia. It should be considered a medical emergency as it may cause bilirubin encephalopathy or kernicterus when unconjugated bilirubin exceeds 15-20 mg/dl. However, in preterm or low-birth weight babies, a lower level of unconjugated bilirubin is considered a medical emergency. Pathological jaundice is recognized by any of the following criteria - jaundice appearing within 24 hours of age, if the palms or soles are yellow, or persistence of jaundice beyond 2 weeks of age.



Fig. 2.2: Neonatal jaundice reaching up to the sole

2.3.9 Perianal Rashes

Due to contact with the wet napkins soaked in urine, an erythematous rash may develop in the diaper or buttock area Fig. 2.3. This is due to prolonged contact with irritants such as moisture, chemical substances, and friction. Urine ammonia, formed

from the breakdown of urea by fecal bacteria, is irritating to sensitive infant skin. Skin damaged by infrequent diaper changes and constant urine and faeces contact is prone to damage from ammonia in urine. Bouts of Diarrhoea may quickly cause rashes in most children. Diaper rash begins with erythema in the perianal region. Left untreated, the area can quickly excoriate and progress to macules and papules, which form erosions and crust.



Fig: 2.3Perianal rash

2.3.10 Caput Succedaneum

"Caput succedaneum" refers to swelling, or oedema, of an infant's scalp that appears as a lump or bump on their head shortly after delivery (Fig. 2.4). This condition is harmless and is due to pressure put on the infant's head during delivery. It does not indicate damage to the brain or the bones of the cranium. In caput succedaneum, the skin of the scalp is swollen and soft. Pressing on it may result in a dimple in the flesh. The swelling may be on one side or may extend over the midline of the scalp. Caput succedaneum is benign in nature and disappears within a few days.



Fig. 2.4: Caput succedaneum

2.3.11 Cephalhematoma

Cephalohematoma is a traumatic subperiosteal hematoma that occurs underneath the skin, in the periosteum of the infant's skull bone (Fig. 2.5). Cephalhematoma is characterized by a fluctuant swelling which is limited by suture lines.

Cephalhematoma may be associated with anemia due to loss of blood into the subperiosteal space and later may result in jaundice, when lysis of red blood cells begins.



Fig. 2.5: Cephalohematoma

Check You r Progress 2

i) List common neonatal problem.

.....

.....

ii) How will you differentiate Caput succedaneum from Cephalhematoma?

.....

.....

iii) When a child with neonatal jaundice does require referral to higher facility?

.....

.....

We shall now discuss about problems of children in following sections as given below.

2.4 MANAGING SKIN INFECTIONS

In a tropical country like India, infectious skin diseases are very common to occur, more so among the children. Parasitic infestations like Pediculosis, Scabies, Cutaneous larva migrants, superficial fungal infections like Pityriasis versicolor, dermatophyte infections, bacterial infections like superficial staphylococcal and streptococcal infections, viral infections like Herpes simplex, varicella zoster, Eczema are all very common to occur among the children, among which we will be discussing the commoner skin infections, which can be managed in the sub-center level only.

2.4.1: Scabies:

A mite, Sarcoptes scabiei hominis, which burrows superficially into the skin and is

transmitted by person-to-person contact, causes scabies (Fig. 2.6). The finger webs of the hands, wrists, axillae, nipples, buttock and genitalia and face of the children are more vulnerable. Involvement of the head and neck can occur in the infants and in immune-compromised children

Clinical features and diagnosis

Intense itching, particularly at night, heralds the development of localized, erythematous, excoriated lesions which appears about 6–8 weeks after the initial infestation. A presumptive diagnosis can be made on the basis of the clinical findings and a history of itching, particularly at night.



Fig. 2.6: Scabies in a child

Prevention and management

All persons in the household should be treated to prevent infestation or re-infestation. Benzyl benzoate is an inexpensive scabicidal. It should be applied to all the skin surfaces, from the scalp to the soles of the feet, and care should be taken to avoid contact with the eyes, and it should not go inside the mouth. It is not necessary to bathe before application; however, clothing and bedding should be washed or left outside exposed to the air for 72 hours to prevent re-infestation. A 25% lotion applied once daily at night on 2 consecutive days is commonly used. This is often followed by a single application at night, 3 days later. Permethrin, 5% cream, is equally effective and less of an irritant, but more expensive.

2.4.2 Pediculosis

Head, body and pubic lice are blood-sucking ecto-parasites. They are usually transmitted directly by person-to-person contact, but they may also be transmitted indirectly, via the clothing, towels, and beddings of the infested persons. Overcrowding and a lack of proper hygienic conditions are the other important causes of its occurrence.

Clinical features and diagnosis

Pediculosis is characterized by intense pruritus, which results in excoriations from scratching, hive-like lesions, dermatitis, and often in secondary bacterial infestations. Close inspection of the skin reveals both the characteristic red punctate from the bites and the species responsible.

Prevention and management

Control depends largely on the public education and improving housing. Infested individuals should be treated promptly and followed up to detect recurrences. Contacts should also be treated at the same time. Routine inspections for the head lice should be conducted in schools at least annually and more often in epidemic areas. In institutions (e.g. boarding schools, hospital), particular attention should be paid to the cleanliness of hair brushes, combs, and clothing.

Head lice infestation can be treated with topical preparations of permethrin, lindane, malathion or benzyl benzoate. Permethrin preparations should be applied to wet hair and left for 10 minutes before rinsing. Lindane and malathion preparation should be massaged into the scalp and left for at least 12 hours, while benzyl benzoate lotion should be left for 24 hours before rinsing. Household contacts should be treated at the same time and all coms and brushes should be soaked in a lotion of any of the above-mentioned preparations for at least 2 hours.

Body lice infestations are effectively treated with powdered preparations of lindane. Clothes should be dusted at the same time and subsequently washed in boiling water.

2.4.3 Pityriasis (Tinea) Versicolor

Pityriasis (tinea) versicolor, which occurs in hot, humid tropical regions as ours, and appears with greatest frequency in the children and young adults (Fig 2.7). It is caused by normally commensal yeast, Malassezia furfur.

Clinical features and diagnosis

Slowly spreading white or yellow-brown scaly plaques interspersed with de-pigmented areas appear on the trunk, buttocks, and limbs and in the face. The active lesions, when left untreated, may leave hypo-pigmented patches.



Fig. 2.7: Pityriasis versicolor

Prevention and management

Application of sodium thiosulfate, 25% lotion, twice daily for 4 weeks should be started promptly. This is usually helpful, although areas of de-pigmentation remain long after completion of successful treatment. However, relapses are common, probably because much of the infected area may appear normal and be left untreated. Better results have been reported with topical application of selenium sulfide. A thin layer of undiluted 2.5% detergent-based suspension should be applied at bedtime to

the trunk, groin, upper limbs, and axillae and rinsed off after 5-15 minutes. Treatment should be repeated after 3 and 6 days.

2.4.4 Staphylococcal and Streptococcal Infections

Staphylococcal and streptococcal infections of the skin are very common where the climate is hot and humid and where standards of the hygiene are compromised, and among immunodeficient patients. While lesions often develop on previously healthy skin, pre-existing eczematous lesions and other dermatoses such as insect bite and scabies lesions can also become infected.

The different disease caused by Staphylococcal and streptococcal are as follows:

2.4.4.1 Impetigo

2.4.4.2 Ecthyma

2.4.4.3 Cellulitis

2.4.4.4 Erysipelas

2.4.4.5 Folliculitis

2.4.4.6 Furunculosis

Impetigo is a highly contagious superficial pyoderma caused by staphylococci, streptococci, or a combination of both organisms. It is particularly common in the infants and small children, but rare among adults. It is characterized by the formation of vesicular lesions, which become pustular and rupture, leaving crusted lesions (Fig. 2.8). These lesions heal without scarring. The bullae may be localized or disseminated. Pruritus is common and the infected area is often extended by scratching. Glomerulonephritis may occur as a complication of a severe impetigo caused by streptococcus pyogens.

Poor sanitation is partially responsible for the occurrence of impetigo in developing countries. Both mothers and teachers should know cuts and abrasions provide an entry point for the bacteria that cause impetigo.

Ecthyma is a variant of impetigo. The lesions, which extend deeper into the dermis, heal with scarring. The lesions often occur on the legs of the children and the infection is usually secondary to insect bites.

Cellulitis and erysipelas are streptococcal infections of the subcutaneous tissues, which usually result from the contamination of minor wounds. Both the conditions are characterized by acute localized inflammation and oedema. The lesions are more superficial in erysipelas than cellulitis.

Folliculitis and furunculosis, which result from the infection of the hair follicles, are usually caused by staphylococcus (Fig. 2.9).



Fig. 2.8: Impetigo



Fig. 2.9: Foolliculitis

Prevention and management

Washing minor skin abrasions with soap and water and applying a topical antiseptic may prevent impetigo. These materials should therefore be made available at the community level. Mild localized superficial infections can often be treated effectively with topical antiseptics like gentian violet, brilliant green, chlorhexidine, povidone iodine or thiomersal. The skin should be kept clean by washing frequently and drying after washing. Superficial crusts should be gently removed with soap and water.

Widespread superficial and deep-seated infections associated with fever or infection in immune-compromised children need to be referred to higher centers for further management, as they may require admission and systemic antibiotics.

2.4.5 Herpes Simplex

Human herpes virus is carried asymptomatically by many children in almost every community. Some patients develop characteristics recurrent vesicular lesions, usually in or around the mouth and to a variable extent on the face. The lesions are small, cause only slight discomfort and resolve within a few days without scarring. (Fig. 2.10)

Prevention and management

Mild infections with herpes virus 1 are self-limiting and usually require no treatment. Newborn infants, immune-compromised children, and patients with atopic eczema should be treated with systemic acyclovir.



Fig. 2.10: Skin lesions in herpes simplex

2.4.6 Varicella Zoster (Chicken pox)

In general, primary childhood infections with human herpes virus 3 present as varicella (chicken pox), which is characterized by the appearance of erythematous papules following a short prodromal period of malaise, fever, and localized pain. Vesicles subsequently appear over several days, leaving dried crusts (Fig. 2.11). Secondary infections are common. Reactivation of latent virus in children and adults' results in shingles, a limited but painful infection of one or more sensory nerve roots.

Prevention and management

Primary varicella infection in the healthy child is a rather benign disease that requires symptomatic therapy only. Pruritus can be treated with calamine lotion or and / or oral antihistamines.



Fig. 2.11: Skin lesions in herpes zoster

Children and adults with extensive lesions may be referred to a higher facility for further management. For them, antiviral drug, Acyclovir can be of value in serious infections.

Check Your Progress 3

i) List clinical features of following skin infection

   a) Scabies

   b) Pityriasis

   c) Staphyloccal

   d) Herpes simplex

   e) Varicella

ii) How will you treat scabies in a 2 years old child?

   .....

   .....

2.5 MANAGING EAR, EYE AND THROAT PROBLEMS

Let us begin with Ear infections.

2.5.1 Middle Ear Infection:

Children suffer from several ear problems, but most commonly we come across ear discharge, ear pain, both of which are due to middle ear infections.

Babies and young children are prone to middle ear infections, called otitis media. Pus or fluid builds up in the ear canal behind the ear drum, which causes pain and mild deafness. Sometimes, the ear drum bursts (perforation of tympanic membrane), releasing the fluid and making the child feel better

Symptoms

Four out of five children will get a middle ear infection at least once. Some of the symptoms of middle ear infection include:

- Earache
- Headache
- Fever
- Discharge from the ear
- Mild deafness
- Difficulties in sleeping
- Perforation of tympanic membrane

Prevention of middle ear infection:

- Exposure to other children increases a baby's odds of catching a cold.
- Breastfeeding offers better immunity than bottle-feeding.

  Propping up a bottle with the child lying down should be avoided as milk may enter the Eustachian tube and increase the risk of ear infection.

Treatment: History of at least 2 weeks of persistent ear discharge should alert primary health workers to the problem. As the condition may result in complication, it would be advisable to refer children with ear discharge to a higher facility.

In case, immediate referral is not possible, daily instillation of topical antiseptics or topical antibiotics after meticulous aural toilet for at least 2 weeks appears as the most cost-effective treatment for the short-term resolution of otorrhea. Topical quinolones are particularly effective in resolving otorrhea. There is no evidence that the addition of oral antibiotics confers increased benefit.

A discharging ear with headache, fever, dizziness, and other danger signs should be considered an emergency and the child should be referred to a higher facility immediately. Children with a recurrently discharging ear or with hearing loss may benefit from specialized management.

2.5.2 Eye Infection Conductivities

There are a number of eye diseases that occur among the children, but among all those problems, what we come across very often is conductivities.

Paediatric acute bacterial conjunctivitis is a microbial infection involving the bulbar/palpebral conjunctiva of the eye. This infection is usually self-limited, and is most frequently observed among infants, toddlers, and preschool-aged children. Bacterial conjunctivitis accounts for up to 1% of all consultations in primary care. The most common causative pathogens are Haemophilus influenzae, Streptococcus pneumoniae, and, occasionally, Streptococcus pyogenes.

The child generally presents with redness of eyes, increased watering, stickiness of

eyelids after getting up from sleep, itching, blurred vision, or pain in the eye.

In most of the cases, it is contagious and spreads from one child to the other.

Acute conjunctivitis is primarily diagnosed clinically, and treatment is nearly always empiric. The recommended management strategy is to delay antibiotic use and promote supportive care, such as frequent eye cleansing with sterile water and cotton balls, warm water compresses, proper hand and eyelid hygiene, and temporary use of artificial tears for comfort. If the symptoms of conjunctivitis do not begin to improve within 2 days of proper supportive management, the recommendation is to then begin a topical antibiotic. Parents should counsel to avoid taking the child outdoors and avoid watching television. Children with conjunctivitis are required to avoid school or day care settings until symptoms subside to prevent the spread to other children.

2.5.3 Throat Infection Pharyngitis and Tonsillitis

This is an infection of the throat and tonsils. Most sore throats are due to viral infections and should NOT be treated with antibiotics as they subside within 3-5 days. However, it is important to diagnose streptococcal pharyngitis since it may give rise to abscesses in the throat (retropharyngeal and peritonsillar abscess) as well as complications that involve organs like the kidneys and the heart. Streptococcal throat infections require treatment with antibiotics to reduce the complications noted above.

The symptoms include fever, difficulty in swallowing, sore throat and running nose or cough. Throat examination may reveal reddened throat, enlarged and reddened tonsils, palpable tonsillar lymph glands (at the angle of the mandible). Signs specific to streptococcal pharyngitis are: painful enlarged tonsillar lymph glands, absence of signs suggesting viral nasopharyngitis (running nose, cough, red eyes), whitish exudate at the back of the throat as well as whitish tonsillar exudate and sustained high-grade fever.

Management mainly depends on antibiotic therapy, for which the child will have to be referred to the hospital. But conservatively, what could be done is to ask the mother to help the child take steam inhalation, gargle with lukewarm water with a pinch of salt mixed in it. Some home remedies made up of honey, Tulsi, and ginger sometimes work wonderfully.

2.5.4 Foreign Body in Ear, Nose and Throat

Small children, mostly less than 5 years old, who do not understand much, have a tendency to put any small thing, whatever they get in their hands to put inside their nose, ears, or mouth. Foreign bodies range from small beads, pellets, marble balls, coins, plastic toys to peanuts, seeds, beans, small pencils, and many more.

These can be very dangerous sometimes, depending upon what has been inserted inside. If it is a sharp object, and the child has put it inside his ear, it may perforate the tympanic membrane. Similarly, in cases of insertion of any seed like groundnut and all, it will absorb the moisture from the secretions inside the cavity and will swell up aggravating the chances of its coming out.

Unless and until, proper instruments and facilities are available, it is better to keep the foreign body untouched, without trying any attempts for its removal.

Rather utilization of this time for calling an ambulance would have been more helpful.

Foreign bodies stuck in the larynx or the airway may cause choking, and if interventions are not done immediately, it may result in grave consequences.

Check Your Progress 4

i) List common symptoms of middle ear infection.

.....

.....

ii) List common signs and symptoms of following:

a) Conjuctivities

b) Middle ear infections

c) Symptoms of Pharyngitis

d) Foreign body in layrnx

.....

.....

2.6 WORM INFESTATION

Worm infestation, is any macroparasitic disease of humans in which a part of the body is infected with parasitic worms, known as helminths. Mostly pinworm and round worms are commonly infested helminths in the children, although, there are cases of tapeworm, hookworm etc. that too infest the child. The worms usually only involve the intestinal tract but sometimes they may invade other organs. The type and severity of symptoms is determined by the type of worm and the part of the body infected.

Common symptoms may be abdominal pain, Diarrhoea, fever, anorexia, bloating of abdomen. Diagnosis can be made after the microscopic examination of the stool sample, which will show ova, cyst, or adult worm.

Albendazole single dose (200 mg/ 400 mg) is the treatment of choice. Several states implement a deworming programme, where prophylactic Albendazole tablet/suspension are given to children twice in a year.

2.7 FEBRILE SEIZURE

Febrile seizures are convulsions that occur in a child who is between three months and six years of age and has a temperature greater than 100.4ºF (38ºC). Most febrile seizures occur in children between 12 and 18 months of age.

Febrile seizures occur in 2 to 4 per cent of children younger than five years old. They can be frightening to watch, but do not cause brain damage or affect intelligence. Having a febrile seizure does not mean that a child has epilepsy; epilepsy is defined as having two or more seizures without fever present.

Febrile seizures usually occur on the first day of illness, and in some cases, the seizure is the first clue that the child is ill. Most seizures occur when the temperature is higher than 102.2°F (39°C).

The risk of recurrent febrile seizures is higher for children who:

- Are young (less than 15 months)
- Have frequent fevers
- Have a parent or sibling who had febrile seizures or epilepsy
- Have a short time between the onset of fever and the seizure
- Had a low degree of fever before their seizure

A child who has a febrile seizure should be referred to a higher facility as soon as possible to determine the cause of the fever and to manage seizure.

Parents who witness their child's febrile seizure should place the child on their side. But they should not try to stop their movement or convulsions. Do not put anything in the child's mouth. After the seizures are over and till the child reaches the higher facility, measures should be taken to decrease the body temperature by giving bath to the child. Some children may require testing to ensure that the fever is not related to meningitis, a serious infection of the lining of the brain.

Parents of a child who is at risk of having a recurrent febrile seizure can be taught to give treatment at home for seizures that last longer than five minutes. Parents should speak with their healthcare provider for help in deciding when to treat a child's fever. A detailed discussion of fever in children is available separately.

Check Your Progress 5

i) List the risk factors for recurrent febrile seizures in children.

.....

.....

2.8 POISONING

Poisoning in children in India is usually caused by ingestion of agricultural manures, pesticides, and plants. Other common causes of poisoning include ingestion of household products including kerosene oil, drugs, chemicals like mosquito repellents etc. Majority of the poisons are being ingested by the children at home and include products that are familiar and visually appealing due to glossy packaging. Nontoxic household items shampoo, ink, nail polish are also being consumed by them.

The most important part for the health worker is to identify the cases of poisoning early. The identification of poisoning requires a high index of suspicion since the history of ingestion of a chemical is uncommon. All children who present as poisoning cases should quickly be assessed for emergency signs (airway, breathing, circulation, and level of consciousness), as some poisons depress breathing, cause shock or induce coma. Ingested poisons must be removed from the stomach.

Not necessarily, the child will ingest the poison always. There may be cases of contact of poison with eyes or skin, or inhalation of poison. In this section, you will read about primary management in cases of poisoning before referring the child to the first referral unit (FRU).

2.8.1 Ingestion of Poisonous Substance

Gastric lavage and decontamination (if the child is brought early) are extremely beneficial for handling some of the cases of ingested poisons. If facilities are not available, immediate transfer of the child to a higher facility should be arranged. Where facilities are available, a quick history should be taken to know the nature of the poison ingested. A few basic procedures can be done before referring to the FRU, which are as follows:

Poisoning with corrosive compounds

Sodium hydroxide, potassium hydroxide, acids, bleaches, or disinfectants are considered as corrosive compounds.

Do not induce vomiting when corrosives have been ingested, as this may cause further damage to the mouth, throat, airway, lungs, oesophagus, and stomach. Give milk or water as soon as possible to dilute the corrosive agent. Then give the child nothing by mouth. Arrange to shift the child immediately to a higher facility.

Poisoning with petroleum compounds

Kerosene, turpentine substitutes, petrol are considered as corrosive compounds. Do not induce vomiting, as inhalation can cause respiratory distress with hypoxemia due to pulmonary oedema and lipoid pneumonia. Ingestion can cause encephalopathy. If available, administer supplementary oxygen if the child has respiratory distress, is cyanosed or has oxygen saturation below 90%.

Poisoning with organophosphorus and carbamate compounds

Most of the pesticides like malathion, parathion, tetra ethyl pyrophosphate, mevinphos (Phosdrin) are organo phosphosrous compounds; methiocarb, carbaryl are the carbamates.

These compounds can be absorbed through the skin, ingested, or inhaled. The child may complain of vomiting, Diarrhoea, blurred vision, or weakness. The signs are those of excess parasympathetic activation: excessive bronchial secretion, salivation, sweating, lachrymation, slow pulse, small pupils, convulsions, muscle weakness or twitching, then paralysis and loss of bladder control, pulmonary oedema, and respiratory depression.

Before referring the child to FRU, remove the poison by irrigating eye if the eyes are suspected to be involved and wash the skin, if the poison fell on skin.

2.8.2 Skin Contamination by Poisonous Substance

Remove all clothing and personal effects, and thoroughly clean all exposed areas with copious amounts of tepid water. Use soap and water for oily substances. Attending staff should take care to protect themselves from secondary contamination by wearing gloves and aprons. Removed clothing and personal effects should be stored safely in a see-through plastic bag that can be sealed, for later cleansing or disposal.

2.8.3 Eye Contamination by Poisonous Substances

Rinse the eye for 10-15 min with clean running water or normal saline, taking care that the run-off does not enter the other eye if the child is lying on the side, when it can run into the inner canthus and out the outer canthus. The use of anesthetic eye drops will assist irrigation. Evert the eyelids and ensure that all surfaces are rinsed. When possible, the eye should be thoroughly examined for signs of corneal damage. If there is significant conjunctival or corneal damage, the child should be referred urgently to a higher center.

2.8.4 Inhalation of Poisonous Substance

Remove the child from the source of exposure. Urgently call for help. If available, administer supplementary oxygen if the child has respiratory distress, or is cyanosed. The child should be referred immediately to a higher facility.

2.8.5 Health Education for Prevention of Poisoning

2.8.5.1 Teach the parents to keep drugs and poisons in proper containers and out of reach of children.

2.8.5.2 Advise parents on first aid if poisoning occurs again.

2.8.5.3 Do not induce vomiting if the child has swallowed kerosene, petrol, or petrol- based products, if the child's mouth and throat have been burnt or if the child is drowsy. If the child swallowed bleach or another corrosive, give milk or water to drink as soon as possible.

2.8.5.4 Take the child to a health facility as soon as possible, together with information about the substance concerned, e.g. the container, label, sample of tablets, berries.

Check Your Progress 6

i) List the common causes of poisoning.

.....

.....

ii) Explain preventive measures that parent should take to prevent poisoning among child.

.....

.....

2.9 INJURIES AND ACCIDENTS

Injuries and accidents are a leading cause of death in children who survive beyond their first birthday and represent a major epidemic of non-communicable disease throughout the globe. WHO estimate suggests that over 10% of those killed due to any

type of accident are the children. Most accidents occur in the age group of 2-5 years, mostly among the boys. India has among the highest rates of road traffic accidents in the world. Burn injuries are the second only to motor vehicle accidents as the cause of the accidental death in children 1-4 years of age.

Injuries are of three categories: injuries at home, sports injury, and road traffic injury. Intentional injuries such as homicide and suicide are rare in children.

The common causes of injuries are - burn injury, scalding, cuts, electrocution, drowning, road traffic accidents, fire injuries.

2.9.1: Primary Assessment and Management of Injuries and Accidents:

Severe multiple injuries or major trauma are life-threatening problems that children may present with to hospital. Multiple organs and limbs may be affected, and the cumulative effects of these injuries may cause rapid deterioration of the child's condition. Management requires urgent recognition of the life-threatening injuries.

Basic techniques of emergency triage and assessment are most critical in the first hour of the patient's arrival at hospital. When there is more than one life- threatening state, simultaneous treatment of injuries is essential and requires effective teamwork.

Talking of managing injuries and accidents, much cannot be done in the sub- center level, unless supporting staff and proper infrastructures are being made available. Injury control operates in 3 phases:

- Prevention of injury
- Minimization of damage
- Post injury care

At primary health care level, it is important to make efforts for prevention of injuries - through health education and regular counselling.

Primary assessment and management

The initial rapid assessment should identify life-threatening injuries such as:

- airway obstruction
- chest injuries with breathing difficulty
- severe external or internal hemorrhage
- head and cervical spine injuries
- abdominal injuries

The primary assessment should be systematic. If there is a risk of neck injury, try to avoid moving the neck, and stabilize as appropriate. Expose the child's whole body to look for injuries. Start with assessment and stabilization of the airway, assess breathing, circulation, and level of consciousness, and stop any hemorrhage. The systematic approach should comprise assessment of:

- airway patency
- breathing adequacy

- circulation and control of hemorrhage
- central nervous system (assess coma scale), cervical spine immobilization
- exposure of the whole body and looking for injuries.

Note all the key organ systems and body areas injured during the primary assessment, and provide emergency treatment. Resuscitate the patient as appropriate; give oxygen by bag or mask if necessary; stop any hemorrhage; Start IV fluids if available. Document all procedures undertaken refer immediately to a higher facility.

2.9.2: Management of a Case of Burn

Scald burns secondary to household accidents accounts for 70% of all thermal injuries in infants, toddlers, and preschool children.

Burns have higher mortality in children than adults as because they have

- Thinner and more sensitive skin
- Markedly increased ratio of body surface area to body mass
- Limited physiological reserves
- Significant metabolic and systemic disturbances
- Immature immune system
- Increased fluids requirement

Before referring the child to higher center for specific treatment in the form of fluid replacement etc. the following steps can be undertaken by the field health staff.

While approaching the child with fire, a blanket or coat should be kept in between the rescuer and the burning child. Flames may be extinguished using water, blanket or by rolling the victim on the ground. The victim is kept lying in the flat position away from the source of heat.

In case of minor burns or scalds, one should pour cold water, apply cold water soaks, or submerge the burned portion immediately in cold water, continuing till the pain disappears. Application of any ointments, grease, soda, oil, powder, butter, or herbs is best avoided. Blistered skin should not be ruptured; it should instead be covered with a clean cloth. Charred cloth is removed only if it comes out easily. The wound is covered with clean sheets of sterile dressing and the patient is wrapped in blanket or foil.

Minor burns can be treated using topical ointments of 0.5% silver sulphadiazine (Silverex). Its application is painless; it has a soothing effect and restricts fluid and heat loss from the burn surface. If the child can drink orally, enough fluids should be supplemented.

In cases of major burn injury, the child needs to be immediately transferred to higher facility.

2.9.3 Management of a Case of Drowning

Initial assessment should include ensuring adequate airway patency, breathing,are

common. Before preparing for transfer to the FRU, stabilize the child by the following ways:

- Give oxygen and ensure adequate oxygenation (if available)
- Remove all wet clothes.
- Use a nasogastric tube to remove swallowed water and debris from the stomach, and when necessary, bronchoscopy to remove foreign material, such as aspirated debris or vomitus plugs, from the airway.
- Warm the child externally if the core temperature is < 32°C by covering the body with blanket and warm clothes. If facilities are available, radiant warmers can also be used. If the core temperature is > 32°C, ask the mother to hold the baby in her lap, cover him with warm blanket, start breastfeeding or feed warm milk while transferring the child.

2.9.4: Management of a Case of Electrocution

- Provide emergency care by ensuring airway patency, breathing and circulatory support. If available, provide oxygen, especially for children with severe hypoxia, facial or oral burns, loss of consciousness or inability to protect the airway, or respiratory distress.
- Assess for traumatic injuries such as pneumothorax, peritonitis, or pelvic fractures.
- Call for an ambulance for quick referral.
- Begin normal saline or Ringer's lactate fluid resuscitation, and titrate to urine output of at least 2 ml/kg per hour in any patient with significant burns or myoglobinuria.
- Give tetanus vaccine as indicated, and provide wound care before referral

Check Your Progress 7

i) List the common causes of injuries.

.....

.....

ii) The systematic approaches for assessment.

.....

.....

iii) Write pre-referral stabilisation of child in case of drowning of electrocution.

.....

.....

2.10 INSECT AND ANIMAL BITE

Insect and animal bites are common among children and should be prevented and treated promptly.

2.10.1 Management of a Case of Snake Bite

Snake bite should be considered in any case of severe pain or swelling of a limb or in any unexplained illness presenting with bleeding or abnormal neurological signs. Some cobras spit venom into the eyes of victims, causing pain and inflammation.

Diagnosis

- General signs include shock, vomiting and headache. Examine bite for signs such as local necrosis, bleeding, or tender local lymph node enlargement.
- Specific signs depend on the venom and its effects. These include:
- shock (rapid and feeble pulse rate, decreased Blood pressure, decreased body temperature, decreased urine output etc.)
- local swelling that may gradually extend up the bitten limb
- bleeding: external from gums, wounds, or sores; internal, especially intracranial
- signs of neurotoxicity: respiratory difficulty or paralysis, ptosis (drooping down of upper eye lids), bulbar palsy (difficulty in swallowing and talking), limb weakness
- signs of muscle breakdown: muscle pains and black urine
- check Hb (when possible, blood clotting should be assessed)

Management includes first aid, before transferring to FRU for anti-snake venom and treatment of shock.

- Splint the limb to reduce movement and absorption of venom. If the bite is likely to have been by a snake with neurotoxic venom, apply a firm bandage to the affected limb, from fingers or toes to near the site of the bite.
- Clean the wound.
- If any of the above signs are present, transport the child to a hospital that has antivenom as soon as possible. If the snake has been killed, take it with the child to hospital.
- Avoid cutting the wound or applying a tourniquet.

2.10.2 Management of a Case of Scorpion/Honey Bee Bite

Scorpion / honey bee stings can be very painful for days. Systemic effects of venom are much commoner in children than adults. Signs of envenoming can develop within minutes and are due to autonomic nervous system activation.

They include:

" shock
" high or low blood pressure
" fast and/or irregular pulse
" nausea, vomiting, abdominal pain

- breathing difficulty (due to heart failure) or respiratory failure
- muscle twitches and spasms.

Give oral paracetamol and transport to hospital as soon as possible.

2.10.3 Management of a Case of a Bite by a Dog /Cat/Wild Animal

Rabies, also known as hydrophobia, is an acute, highly fatal viral disease of the central nervous system, caused by Lyssavirus type 1. It is primarily a zoonotic disease of warm-blooded animals, particularly carnivores such as dogs, cats, jackals, and wolves. It is transmitted to man usually by bites or licks of rabid animals. Although all age groups are susceptible, rabies is most common in children aged less than 15 years; on average, 40 per cent of post-exposure immunization is given to children aged 5-14 years.

Whenever we get a case of dog bite or bite by a wild animal, we should be very careful and prompt in treatment to prevent the occurrence of rabies. Before referring the child to FRU for a vaccination, first aid should be undertaken, which includes local treatment of the wound, which is done by the following way:

Prompt and adequate local treatment of all bite wounds and scratches is the first requisite and is of utmost importance. The purpose of local treatment is to remove as much virus as possible from the site of inoculation before it can be absorbed into nerve endings. Local treatment of wounds is of maximal value when applied immediately after exposure (within minutes if possible), but it should not be neglected if several hours or days have elapsed. Animal experiments have shown that local wound treatment can reduce the chances of developing rabies by up to 80%. The local treatment comprises the following measures:

- Cleaning of wound: Immediate flushing and washing the wound(s), scratches, and the adjoining areas with plenty of soap and water, preferably under a running tap, for at least 15 minutes is of paramount importance in the prevention of human rabies. If soap is not available, simple flushing of the wounds with plenty of water should be done as first aid. In case of puncture wounds, catheters should be used to irrigate the wounds. This procedure is now standard worldwide. It does minimize the risk of contracting rabies.
- Chemical treatment: Whatever residual virus remains in the wound(s), after cleansing, should be inactivated by irrigation with virucidal agents' alcohol (400-700 ml/litre), tincture or 0.01% aqueous solution of iodine or povidone iodine.
- Bite wounds should not be immediately sutured to prevent additional trauma, which may help spread the virus into deeper tissues. If suturing is necessary, it should be done 24-48 hours later, applying minimum possible stitches, under the cover of rabies immunoglobulin locally.
- Antibiotics and anti-tetanus measures: When indicated, antibiotics and anti-tetanus procedures should be applied in addition to the local treatment recommended above.

Check Your Progress 8

i) Write primary management which should be done in a case of snake bite before referring the victim to a higher facility.

.....

.....

ii) Write local treatment of the wound in case of a dog bite.

.....

.....

2.11 LET US SUM UP

In India Children are susceptible to various types of illness, especially infectious diseases. Most of this illness can be managed at sub-center and with proper counselling and follow-up at home. When a parents come to your center with sick child, your immediate responsibility is to tranquilize, which means that you should able to identify whether the child needs immediate referral or can be treated at subcenter. In this unit you have learnt about triaging, common managing neonatal problem and child health problems which included, managing skin infection, eye, ear, throat, worm infection, febrile seizure, poisoning, injuries and accidents and insect and animal bites.

2.12 MODEL ANSWERS

Check Your Progress 1

i) Priority signs includ

- Tiny infant (< 2 months)
- Very high body temperature
- Trauma or urgent surgical condition
- Severe pallor
- History of poisoning
- Severe pain
- Respiratory distress
- Restless, continuously irritable, or lethargic
- Malnutrition: visible severe wasting
- Oedema of feet or face
- Burns (major)

(ii) Place for carrying out the triage: Triage can be carried out anywhere- from the health clinic/sub-center to the home of the child.

Check Your Progress 2

i) Common neonatal problem
Meconium passage
Urine passage
Regurgitation of milk
Transitional stools:
Toxic erythema of the newborn
Vaginal discharge and bleeding:
Breast engorgement
Neonatal Jaundice
Perianal Rashes
Caput succedaneum
Cephalhematoma

ii) "Caput succedaneum" refers to swelling, or oedema, of an infant's scalp that appears as a lump or bump on their head shortly after delivery. This condition is harmless and is due to pressure put on the infant's head during delivery. It does not indicate damage to the brain or the bones of the cranium.
Cephalohematoma is a traumatic subperiosteal hematoma that occurs underneath the skin, in the periosteum of the infant's skull bone. Cephalhematoma is characterized by a fluctuant swelling which is limited by suture lines. Cephalhematoma may be associated with anemia due to loss of blood into the subperiosteal space and later may result in jaundice, when lysis of red blood cells begins.

iii) It should be considered a medical emergency as it may cause bilirubin encephalopathy or kernicterus when unconjugated bilirubin exceeds 15-20 mg/dl. However, in preterm or low-birth weight babies, a lower level of unconjugated bilirubin is considered a medical emergency.

Check Your Progress 3

i) a) **Scabies**

Clinical features and diagnosis

A mite, Sarcoptese scabiei hominis, which burrows superficially into the skin and is transmitted by person-to-person contact, causes scabies. The finger webs of the hands, wrists, axillae, nipples, buttock and genitalia and face of the children are more vulnerable. Involvement of the head and neck can occur in the infants and in immune-compromised children. Intense itching, particularly at night, heralds the development of localized, erythematous, excoriated lesions which appears about 6-8 weeks after the initial infestation.

b) **Pityriasis (tinea) versicolor**

Clinical features and diagnosis

Pityriasis (tinea) versicolor, which occurs in hot, humid tropical regions as ours, and appears with greatest frequency in the children and young adults, is caused by normally commensal yeast, Malassezia furfur. Slowly spreading

white or yellow-brown scaly plaques interspersed with de- pigmented areas appear on the trunk, buttocks, and limbs and in the face. The active lesions, when left untreated, may leave hypo-pigmented patches.

c) **Staphylococcal**

Clinical features and diagnosis

Staphylococcal infections of the skin are very common where the climate is hot and humid, where standards of the hygiene are compromised, and among immunodeficient patients. While lesions often develop on previously healthy skin, pre-existing eczematous lesions and other dermatoses such as insect bite and scabies lesions can also become infected.

d) **Herpes simplex**

Clinical features and diagnosis

Human herpes virus is carried asymptomatically by many children in almost every community. Some patients develop characteristics recurrent vesicular lesions, usually in or around the mouth and to a variable extent on the face. The lesions are small, cause only slight discomfort and resolve within a few days without scarring.

e) **Varicella zoster (Chicken pox)**

Clinical features and diagnosis

In general, primary childhood infections with human herpes virus 3 present as varicella (chicken pox), which is characterized by the appearance of erythematous papules following a short prodromal period of malaise, fever, and localized pain. Vesicles subsequently appear over several days, leaving dried crusts. Secondary infections are common. Reactivation of latent virus in children and adults' results in shingles, a limited but painful infection of one or more sensory nerve roots.

ii) All person in the household should be treated to prevent infestation or re-infestation. Benzyl benzoate is an inexpensive scabicidal. It should be applied to all the skin surfaces, from the scalp to the soles of the feet and care should be taken to avoid contact with the eyes and should not go inside the mouth. It is not necessary to bath before application; however, clothing and bedding should be washed or left outside exposed to the air for 72 hours to prevent re-infestation. A 25% lotion applied once daily at night on 2 consecutive days is commonly used. This is often followed by a single application at night 3 days later. Permethrin, 5% cream, is equally effective and less of an irritant, but more expensive.

Check Your Progress 4

i) **Symptoms:** Four out of five children will get a middle ear infection at least once. Some of the symptoms of middle ear infection include:
Earache
Headache
Fever

Discharge from the ear
Mild deafness
Difficulties in sleeping
Perforation of tympanic membrane

ii) a) The child generally presents with redness of eyes, increased watering, stickiness of eyelids after getting up from sleep, itching, blurred vision, or pain in the eye.

b) Earache
Headache
Fever
Discharge from the ear
Mild deafness Difficulties in sleeping
Perforation of tympanic membrane

c) The symptoms include fever, difficulty in swallowing, sore throat and running nose or cough. Throat examination may reveal reddened throat, enlarged and reddened tonsils, palpable tonsillar lymph glands (at the angle of the mandible). Signs specific to streptococcal pharyngitis are: painful enlarged tonsillar lymph glands, absence of signs suggesting viral nasopharyngitis (running nose, cough, red eyes), whitish exudate at the back of the throat as well as whitish tonsillar exudate and sustained high grade fever.

d) Foreign bodies stuck in the larynx or the air pipe may cause choking and if interventions are not done immediately, it may result in grave causality.

Check Your Progress 5

i) The risk of recurrent febrile seizures is higher for children who: Are young (less than 15 months)
Have frequent fevers
Have a parent or sibling who had febrile seizures or epilepsy Have a short time between the onset of fever and the seizure Had a low degree of fever before their seizure

Check Your Progress 6

i) Poisoning in children in India is usually caused by ingestion of agricultural manures, pesticides, and plants. Other common causes of poisoning include ingestion of household products including kerosene oil, drugs, chemicals like mosquito repellants etc. Majority of the poisons are being ingested by the children at home and include products that are familiar and visually appealing due to glossy packaging. Nontoxic household items shampoo, ink, nail polish are also being consumed by them.

ii)
- Teach the parents to keep drugs and poisons in proper containers and out of reach of children.
- Advise parents on first aid if poisoning occurs again.
- Do not induce vomiting if the child has swallowed kerosene, petrol, or petrol-based products, if the child's mouth and throat have been burnt or if the child is drowsy. If the child swallowed bleach or another corrosive, give milk or water

to drink as soon as possible.

- Take the child to a health facility as soon as possible, together with information about the substance concerned, e.g. the container, label, sample of tablets, berries.

Check Your Progress 7

i) The common causes of injuries are - burn injury, scalding, cuts, electrocution, drowning, road traffic accidents, fire injuries.

ii) The systematic approach should comprise assessment of:

- airway patency
- breathing adequacy
- circulation and control of hemorrhage
- central nervous system (assess coma scale), cervical spine immobilization
- exposure of the whole body and looking for injuries.

iii) Give oxygen and ensure adequate oxygenation (if available)

- Remove all wet clothes.
- Use a nasogastric tube to remove swallowed water and debris from the stomach, and when necessary, bronchoscopy to remove foreign material, such as aspirated debris or vomitus plugs, from the airway.
- Warm the child externally if the core temperature is > 32°C by covering the body with blanket and warm clothes. If facilities are available, radiant warmers can also be used. If the core temperature is < 32°C, ask the mother to hold the baby in her lap, cover him with warm blanket, start breastfeeding or feed warm milk while transferring the child.

iv) • Provide emergency care by ensuring airway patency, breathing and circulatory support. If available, provide oxygen, especially for children with severe hypoxia, facial or oral burns, loss of consciousness or inability to protect the airway, or respiratory distress.

Check Your Progress 8

i) Management includes first aid, before transferring to FRU for anti-snake venom and treatment of shock.

- Splint the limb to reduce movement and absorption of venom. If the bite is likely to have been by a snake with neurotoxic venom, apply a firm bandage to the affected limb, from fingers or toes to near the site of the bite.
- Clean the wound.
- If any of the above signs are present, transport the child to a hospital that has antivenom as soon as possible. If the snake has been killed, take it with the child to hospital.
- Avoid cutting the wound or applying a tourniquet.

ii) The local treatment comprises the following measures:

- Cleaning of wound: Immediate flushing and washing the wound(s), scratches, and the adjoining areas with plenty of soap and water, preferably under a running tap, for at least 15 minutes is of paramount importance in the prevention of human rabies. If soap is not available, simple flushing of the wounds with plenty of water should be done as first-aid. In case of punctured wounds, catheters, should be used to
- Chemical treatment: Whatever residual virus remains in the wound(s), after cleansing, should be inactivated by irrigation with virucidal agents' alcohol (400-700 ml/litre), tincture or 0.01% aqueous solution of iodine or povidone iodine.
- Bite wounds should not be immediately sutured to prevent additional trauma, which may help spread the virus into deeper tissues. If suturing is necessary, it should be done 24-48 hours later, applying minimum possible stitches, under the cover of rabies immunoglobulin locally.
- Antibiotics and anti-tetanus measure: The application of antibiotics and anti-tetanus procedures when indicated should follow the local treatment recommended above.

2.13 REFERENCES

1) Pocket book of hospital care for children: Guidelines for the management of common illnesses with limited resources, WHO, 2013.
2) Managing Newborn Problems: A guide for doctors, nurses, and midwives. WHO Publication, 2007.
3) Teaching Aids on Newborn Care: Deorari AK (Ed), 3rd Edition, 2005, New Delhi. Publication of National Neonatology Forum of India.

UNIT 3 INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS

3.0. Introduction

3.1 Assess and classify the sick young infant

- 3.1.1 Assess young infant for possible serious bacterial infection/jaundice
- 3.1.2 Classify the young infant for possible serious bacterial infection/jaundice
- 3.1.3 Assess young infant for diarrhoea
- 3.1.4 Classify diarrhoea in young infant for dehydration
- 3.1.5 Check for feeding problems or low weight for age
- 3.1.6 Classify for feeding problems and low weight for age
- 3.1.7 Check immunization status
- 3.1.8 Assess any other problems
- 3.1.9 Assess the mother/caregiver's development supportive practices

3.2 Identify treatment

3.3 Treat the young infant

- 3.3.1 Refer the infant
- 3.3.2 Treatment of diarrhoea
- 3.3.3 Counsel the mother of a young infant with the classification 'feeding problem'
- 3.3.4 Counsel the mother about her own health
- 3.3.5 Assess and Counsel the mother/caregiver for development supportive practices
- 3.3.6 Follow-up care

3.4 Assess and classify the sick child

- 3.4.1 Check for general danger signs
- 3.4.2 Assess and classify cough or difficult breathing
- 3.4.3 Assess and classify diarrhoea
- 3.4.4 Assess and classify fever
- 3.4.5 Check for malnutrition
- 3.4.6 Classify malnutrition
- 3.4.7 Check for anemia
- 3.4.8 Classify anemia
- 3.4.9 Assess other problems
- 3.4.10 Assess the mother/caregiver development supportive practices
- 3.4.11 Counsel the mother about her own health

3.5 Identify treatment and treat the child

- 3.5.1 Give an appropriate antibiotic
- 3.5.2 Treat diarrhoea with dehydration with Oral Rehydration Salt (ORS) Solution (Plan B)
- 3.5.3 Treat high fever with paracetamol
- 3.5.4 Treat anemia with iron folic acid
- 3.5.5 Give antimalarial as per national guidelines
- 3.5.6 Teach the mother to treat local infections at home
- 3.5.7 Assess the child's feeding
- 3.5.8 Assess the mother/caregiver's to support child's development
- 3.5.9 Play and communicate
- 3.5.10 Follow-up care

3.6 Recording forms

3.0 INTRODUCTION

In children under five years of age, neonatal infections, pneumonia, diarrhoea and malaria are the most important causes of death. Malnutrition increases the risk of death and is associated with approximately 50% of all deaths among children. Low birth weight and poor feeding practices are the major reasons for malnutrition in infants and children. Moreover, many children and infants suffer from more than one illness at a time. Children present with overlapping signs and symptoms of diseases; therefore, a single diagnosis can be difficult and may not be feasible or appropriate. An integrated approach is needed to manage these sick children for better outcomes. This approach reduces death and the frequency and severity of illness and disability, and contributes to improved growth and development.

Outpatient management of children is an integrated approach that includes the assessment, classification and management of the major problems in a sick infant or a child aged less than 5 years may have. It also includes assessment of nutritional and immunization status of all sick infants and children.

There will be group discussion on the causes of childhood illness and mortality

THERE ARE TWO PARTS OF THIS COURSE:

- Management of young infants aged upto 2 months (0 to 59 days old)
- Management of sick children 2 months upto 5 years (2 to 59 months). This module will teach you how to do the following:

For young infant upto 2 months

- Assess and classify young infants for possible serious bacterial infection/jaundice
- Assess for diarrhoea
- Assess and classify for feeding problem and low weight for age
- Assess and classify the young infant's immunization status
- Assess other problems
- Assess the mother/caregiver's development supportive practices & counsel for practices to support child's development using MCP card
- Counsel the mother about her own health
- Provide treatment and refer when required
- Correct breastfeeding problems
- Advise the mother on home care to young infant
- Follow-up care

For the sick child 2 months upto 5 years

- Assessment for General Danger Signs
- Assess major symptoms (Cough/Diarrhoea/Fever)
- Check for malnutrition & anemia
- Check for immunization, prophylactic vitamin A & iron-folic acid supplementation status
- Assess other problems

- Assess feeding if age is less than 2 years/ has uncomplicated Severe/ Moderate Acute Malnutrition or Anemia
- Assess the mother/ caregiver's development supportive practices if less than 3 years/ has uncomplicated severe acute malnutrition or anemia
- Classification and identification of treatment
- Provide treatment and refer when required
- Counsel for feeding and development of supportive practices
- Follow-up care

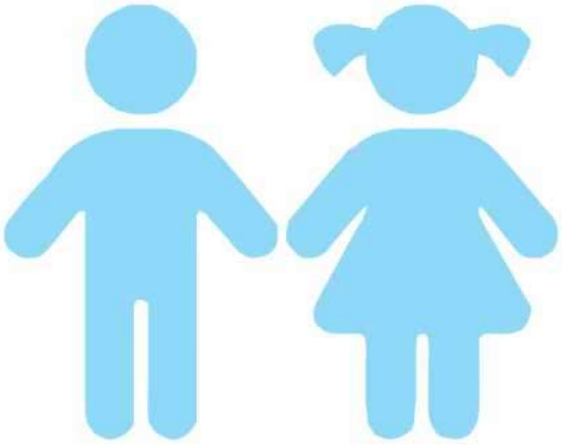
INTRODUCTION TO COLOUR-CODED CHART BOOKLET

Color-coded chart booklet has four columns:

- "Assess" column lists what signs and symptoms to check and how to do it. "Signs" column summarizes the signs and symptoms present. "Classification" helps in classifying each illness the young infant or child has.
- "Identify Treatment" section lists appropriate treatment decisions for each classification.

The 'Assess' and 'Classify' sections are organized in three different colours (pink, yellow and green):

- Conditions included in the boxes with **pink colour** indicate severe illness. Children with a severe illness must be referred to a hospital or sent to the doctor after giving pre-referral treatment.
- Conditions included in the boxes with a **yellow colour** should be treated with medicine at home and home care advice (given) or (provided) to the mother.
- Conditions included in the boxes with **green colour** are to be treated with home care without the use of medicines



3.1 ASSESS AND CLASSIFY THE SICK YOUNG INFANT

Sick young infants are somewhat different from older children. Sick young infants frequently have only general signs like lethargy, low body temperature or fever. They can become sick very quickly and may die within a few hours or days unless provided

with necessary treatment. These are some of the reasons why young infants have to be managed differently.

Select the case management section for the young infant aged upto 2 months.

- Greet the mother and give 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 or establish 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 that mother understands. If she does not understand the questions you asked 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.

Other tips for effective communication

- Sit at the mother's level
- Touch appropriately or play with child
- Nod, say hmmm…. when mother is saying something. It makes her feel she is understood.
- Do not appear to be in a hurry

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 the 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 doctor finds out if the treatment 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 doctor 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. If it is an initial visit, follow the sequence of steps on the chart to assess and classify a sick young infant.

Facilitator will conduct a Group Discussion on Steps of Effective Communication

3.1.1 ASSESS YOUNG INFANT FOR POSSIBLE SERIOUS BACTERIAL INFECTION / JAUNDICE

Every young infant should be checked for possible serious bacterial infection/jaundice.

CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION / JAUNDICE

ASK:	LOOK, LISTEN & FEEL:
• Is the infant having difficulty in feeding? • Has the infant had convulsions? • When did jaundice first appear ?	• Count the breaths in one Young minute. • Repeat the count if it is 60 or infant more breaths per minute. • Must be Look for severe chest calm in drawing. • Measure axillary temperature (if not possible, feel for fever or low body temperature). • Look at the young infant's movements. If infant is sleeping , ask the mother to wake him/her up. ➢ Does the infant move on his/her own? ➢ Does the infant move only when stimulated but then stops ? ➢ Does the infant not move at all? • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules. • Look for jaundice (yellow skin) • Look at the young infant's palms and soles. Are they yellow?

ASK: Is the infant having difficulty in feeding?

Ask the mother this question. Any difficulty mentioned by the mother is important. A young infant who was feeding well earlier but is not feeding well now may have a serious infection. These infants who are either not able to feed or are not feeding well should be referred urgently to hospital.

The mother may also mention difficulties like: her infant feeds too frequently, or not frequently enough; she does not have enough milk; her nipples are sore; she has flat or inverted nipples. You will assess these difficulties later during breastfeeding assessment.

ASK: Has the infant had convulsions?

Ask the mother questions on whether the young infant has suffered from convulsions or not. Use the local term for convulsions. The caregiver may call convulsions "fits" or "spasms."

ASK: When did jaundice first appear?

Ask the mother questions on whether the young infant has palms and soles yellow?

LOOK: Count the breathing rate

Count the breaths, the young infant takes in one minute. The young infant must be quiet and calm. 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. Tell her to try to keep her infant calm. If the infant is sleeping, ask the mother to wake the baby up.

To count the number of breaths in one minute:

1. Use a watch with a second hand or a digital watch.
2. Put the watch where you can see the second hand and the breathing movements. Glance at the second hand as you count the breaths the young infant takes in one minute.
3. 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.
4. 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.



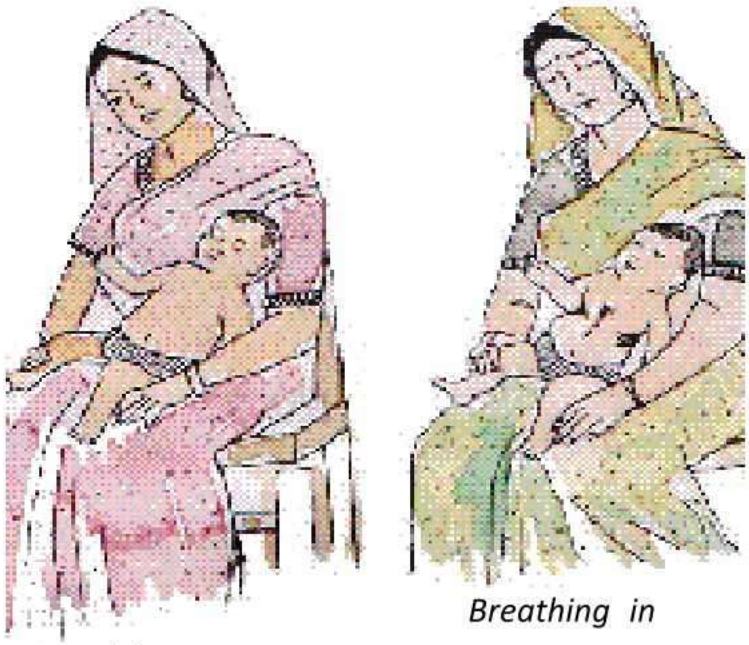
Counting breathing rate

5. Since the breathing rate of the young infant is often irregular, repeat the count if elevated (60 or more breaths per minute or more). The second count is accepted as the final count. If the young infant has fast breath, the young infant may have pneumonia. This is considered serious in a young infant

If the infant's age is	The infant has fast breathing if you count
Below 2 months	60 or more breaths per minute or more during second count

LOOK: for severe chest in drawing

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 in drawing when the young infant breathes in. Look at the lower chest wall (lower ribs). The young infant has chest in drawing if the lower chest wall goes IN when the infant breathes IN.



Chest Indrawing Present

In normal breathing, the whole chest walls (both upper and lower) and the abdomen move OUT when the young infant breathes IN. When chest in drawing is present, the lower chest wall goes IN when the young infant breathes IN.

If you are not sure that chest in drawing 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 in drawing. For chest in drawing to be present, it must be clearly visible and present all the time. If you only see chest in drawing when the young infant is crying or feeding, the young infant does not have chest in drawing.

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

FEEL:

Measure axillary temperature (if not possible, feel for fever or low body temperature).

Fever (axillary temperature 37.50C /99.50C or above / feels hot to touch) is uncommon in the first two months of life. If a young infant has fever, this may mean the infant has a possible serious bacterial infection. Young infants can also respond to infection by dropping their body temperature to below 35.50C/95.90C.

Wash your hands before recording a baby's temperature and keep the baby warm throughout the procedure.

Using digital thermometer:

Switch on the thermometer, till beep is heard. Keep the digital thermometer in the axilla (armpit) and then hold the young infant's arm against his body till beep is heard. Remove the thermometer and note the reading. In case you are using mercury bulb thermometer keep for 5 minutes..

If you do not have a thermometer, feel the infant's abdomen or armpit and determine if it feels hot or cold to touch.

LOOK at the young infant's movements.

Does the young infant move on his/her own? Does the young infant move only when stimulated (touched, flicked at the sole 2-3 times, shaken, or spoken to) but then stops? Are there no movements even after the young infant is stimulated? Young infants often sleep most of the time, and this is not a sign of illness. If a young infant does not wake up during the assessment, ask the mother to wake him. 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. Observe the infant's movements while you do the assessment.

If the infant is awake but has no spontaneous movements, gently stimulate the young infant. If the infant moves only when stimulated and then stops moving, or does not move even when stimulated, it is a sign of severe disease.

LOOK at Umbilicus.

Is it 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).

LOOK for skin pustules.

Examine the skin on the entire body. Skin pustules are red spots or blisters, which contain pus.

LOOK for jaundice

Jaundice is the visible manifestation of increased level of bilirubin in blood. Almost all neonates may have some jaundice known as physiological jaundice during the first week of life due to several physiological changes taking place after birth. Physiological jaundice does not extend to palms and soles, and does not need any treatment. However, if jaundice appears on first day (within first 24 hours of birth) or persists for 14 days/ more or extends to palms and soles then it is severe jaundice and requires urgent attention.

To look for jaundice, press the infant's skin over the forehead with your fingers to blanch, remove your fingers and look for yellow discolouration under natural light. If there is yellow discoloration, the infant has jaundice. To assess for severity, repeat the process over the palms and soles too.

There will be a drill on Checking for possible serious bacterial infection

3.1.2 CLASSIFY THE YOUNG INFANT FOR POSSIBLE SERIOUS BACTERIAL INFECTION/JAUNDICE

The classification table for Possible Serious Bacterial Infection is shown below:

Signs	Classify as	Identify treatment (Urgent pre-referral treatments are in bold print)
Any one or more of the following signs: • Not able to feed at all or not feeding well or • Convulsions or • Fast breathing (60 or more breaths per minute or more) or • Severe chest indrawing or • Axillary temperature 37.5°C/99.5°F or above (or feels hot to touch) or • Axillary temperature less than 35.5°C/95.9°F (or feels cold to touch) or • Movement only when stimulated or no movement at all	**POSSIBLE SERIOUS BACTERIAL INFECTION**	• Give first dose of oral amoxycillin and intramuscular gentamicin • Treat to prevent low blood sugar • Advise the mother how to keep the young infant warm on the way to the hospital. • Refer URGENTLY to hospital#
• Umbilicus red or draining pus or • Skin pustules	LOCAL BACTERIAL INFECTION	• Give oral amoxycillin for 5 days • Teach the mother how to treat local infections at home. • Advise the mother to give home care to the young infant • Advise the mother when to return immediately Follow up after 2 days
• No signs of bacterial infections	INFECTION UNLIKELY	• Advise the mother to give home care to the young infant

The classification table for jaundice is shown below

Signs	Classify as	Identify treatment (Urgent pre-referral treatments are in bold print)
• Any jaundice in an infant aged less than 24hours or • Yellow palms or soles	**SEVERE JAUNDICE**	• Treat to prevent low blood sugar. • Refer URGENTLY to hospital# • Advise mother how to keep baby warm on the way to the hospital
• Jaundice appearing after 24 hrs of age and • Palms and soles notyellow	**JAUNDICE**	• Advise the mother to give home care for young infants. • Advise the mother to return immediately if the • infant's palm or soles appear yellow • If the infant is older than 2 weeks, refer to a hospital for assessment. • Follow up after 2 day
• No jaundice	**NO JAUNDICE**	• *Advise the mother to give home care to young infants*

If referral is not possible, see the section Where Referral is Not Possible

After assessing the young infant, encircle all the signs that the infant has on the recording form. Compare the signs that the young infant has with the signs listed in each row and choose the appropriate classification.

Remember:

- All young infants must be assessed for possible serious bacterial infection/jaundice.
- A young infant who has even one sign of possible serious bacterial infection has the classification Possible Serious Bacterial Infection (Pink classification). Refer this young infant promptly to hospital.
- A young infant who has no sign of Possible Serious Bacterial Infection but has signs of local bacterial infection has the classification Local Bacterial Infection (Yellow classification). This young infant can be treated at home with medicines.
- A young child with no symptoms of bacterial infection has the classification Infection Unlikely.
- The mother of this infant should be advised for proper home care.
- If the infant has jaundice, choose an additional classification from the jaundice classification table.
- If the infant has signs in the pink row for Jaundice, classify as SEVERE JAUNDICE. If the infant has none of the signs in the pink row, but has the sign in the yellow row, classify him as JAUNDICE.
- A young infant with no jaundice symptoms will be classified as No Jaundice. The mother of this infant should be advised for proper home care.

There will be a demonstration on how to classify a sick young infant

PRACTICE CASE STUDIES

Case 1

1. Rekha is 20 days old. She has a breathing rate of 66 per minute, moves only when stimulated. Select the classification for the infant based on the signs given in the table below.

Any one or more of the following signs: • Not able to feed at all or not feeding well or • Convulsions or • Fast breathing (60 or more breaths per Minute or more) or • Severe chest indrawing or • Axillary temperature 37.5^{0}C/99.5^{0}F or above (or feels hot to touch) or • Axillary temperature less than 35.5^{0}C/95.9^{0}F (or feels cold to touch) or • Movement only when stimulated or no movement at all	**POSSIBLE SERIOUS BACTERIAL INFECTION**	• ***Give first dose of oral amoxycillin and intramuscular gentamicin.*** • ***Treat to prevent low blood sugar.*** • ***Advise the mother how to keep the young infant warm on the way to the hospital.*** • ***Refer URGENTLY to hospital***

• Umbilicus red or draining pus or • Skin pustules	**LOCAL BACTERIAL INFECTION**	• *Give oral amoxycillin for 5 days* • *Teach mother how to treat local infections at home.* • *Advise the mother to give home care to the young infant* • *Advise mother when to return immediately* • *Follow up after 2 days*
• No signs of bacterial infections	**INFECTION UNLIKELY**	• *Advise the mother to give home care to the young infant*

Answer

Since she has two signs present in the pink classification box and none in the yellow classification box. So, you will select the pink classification-
POSSIBLE SERIOUS BACTERIAL INFECTION

Case 2

1. Amit is 45 days old. He has skin pustules over his abdomen.

Any one or more of the following signs: • Not able to feed at all or not feeding well or • Convulsions or • Fast breathing (60 or more breaths per minute or more) or • Severe chest indrawing or • Axillary temperature 37.5^{0}C/99.5^{0}F or above (or feels hot to touch or • Axillary temperature less than 35.5^{0}C/95.9^{0}F (or feels cold to touch) or • Movement only when stimulated or no movement at all	**POSSIBLE SERIOUS BACTERIAL INFECTION**	• ***Give first dose of oral amoxycillin and intramuscular gentamicin.*** • ***Treat to prevent low blood sugar.*** • ***Advise the mother how to keep the young infant warm on the way to the hospital.*** • ***Refer URGENTLY to hospital***
• Umbilicus red or draining pus or • Skin pustules	**LOCAL BACTERIAL INFECTION**	• *Give oral amoxycillin for 5 days* • *Teach mother how to treat local infections at home.* • *Advise the mother to give home care to the young infant* • *Advise mother when to return immediately* • *Follow up after 2 days*
• No signs of bacterial infections	**INFECTION UNLIKELY**	• *Advise the mother to give home care to the young infant*

Answer

He has no signs in the pink classification box. Has one sign in the yellow classification box, so you will select the yellow box classification –
LOCAL BACTERIAL INFECTION.

Case 3

Meena is 15 days old. She feels hot to touch, has no movements even when stimulated and has pus draining from the umbilicus.

Any one or more of the following signs: • Not able to feed at all or not feeding well or • Convulsions or • Fast breathing (60 or more breaths per minute or more) or • Severe chest indrawing or • Axillary temperature 37.5°C/99.5°F or above (or feels hot to touch) or • Axillary temperature less than 35.5°C/95.9°F (or feels cold to touch) or • Movement only when stimulated or no movement at all	**POSSIBLE SERIOUS BACTERIAL INFECTION**	• ***Give first dose of oral amoxycillin and intramuscular gentamicin.*** • ***Treat to prevent low blood sugar.*** • ***Advise the mother how to keep the young infant warm on the way to the hospital.*** • ***Refer URGENTLY to hospital***
• Umbilicus red or draining pus or • Skin pustules	**LOCAL BACTERIAL INFECTION**	• *Give oral amoxycillin for 5 days.* • *Teach the mother to treat local infections at home.* • *Advise the mother to give home care to the young infant* • *Advise the mother when to return immediately* • *Follow up after 2 days*
• No signs of bacterial infections	**INFECTION UNLIKELY**	• *Advise the mother to give home care to the young infant*

Answer

She has two signs in the pink classification box and one sign in the yellow classification box. She has signs in both the classification boxes but you have to choose only one classification for possible serious bacterial infection. Whenever you use a classification table, start with the top row. In each classification table, a young infant receives classifications in one colour only. If the infant has signs from more than one row, always select the more serious classification. So, you will select the classification from the pink box- POSSIBLE SERIOUS BACTERIAL INFECTION.

3.1.3 ASSESS YOUNG INFANT FOR DIARRHOEA

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

Ask: Does the young infant have diarrhoea

If the mother says that the young infant has diarrhoea, assess and classify for diarrhoea. Breastfed babies normally have frequent loose stools but they are not watery. This is not diarrhoea. If the stools have changed from the usual pattern and are many and watery, the young infant has diarrhoea. If mother tells you that there is visible blood in stool then this baby should be referred to hospital. Blood in stool in young infant, needs investigations and treatment of underlying medical or surgical condition.

If Yes:

- Look at the young infant's general condition.
  - Look at Infant's movements:
    - Does the infant move on his/her own?
    - Does the infantmove only whenstimulated and then stops?
    - Does the infant 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?

Check for signs of dehydration

LOOK: at the young infant's general condition

You have already checked if the young infant is lethargic or unconscious.

Does the young infant move only when stimulated (touched, flicked at the sole 2-3 times, shaken, or spoken to)? Are there no movements even after the young infant is stimulated? Young infants often sleep most of the time, and this is not a sign of illness. If a young infant does not wake up during the assessment, ask the mother to wake him. 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. Observe the infant's movements while you do the assessment.

If the infant is awake but has no spontaneous movements, gently stimulate the young infant. If the infant moves only when stimulated and then stops moving, or does not move even when stimulated, it is a sign of severe disease.

A young infant has the sign of restlessness and irritability if the young infant is restless and irritable all the time or every time he is touched and handled. If the young infant is calm while breastfeeding but is again restless and irritable when s/he stops breastfeeding is also considered as restless and irritable. This can be a sign of some dehydration.

LOOK: for 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 that her infant's eyes look unusual. Her opinion helps you confirm that the young infant's eyes are sunken.

PINCH the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?

Ask the mother to hold the young infant in her lap so that the infant is lying flat on its back. Locate an area half way between the infant's navel and the side of the tummy. Now pinch the skin with the thumb and the first finger by lifting it for one second and then releasing it. Do not pinch with the tip of the finger or the thumb since this will cause pain to the infant. After leaving the skin, check to see how soon the skin returns to normal. If the skin comes back very slowly, that is, it takes more than 2 seconds, the skin pinch is very slow. Very slow skin pinch is one of the signs of severe dehydration.

If the skin does not return to normal immediately, the skin pinch is slow and this means that dehydration is present. **A very short tenting of the skin lasting less than 2 seconds is considered as slow skin pinch.** If the skin returns to normal immediately after being pinched, the skin pinch is normal.

3.1.4 CLASSIFY DIARRHOEA IN YOUNG INFANT FOR DEHYDRATION

Classify young infant for dehydration. Here is the classification table for dehydration:

Signs	Classify as	Identify treatment (Urgent pre-referral treatments are in bold print)
Two of the following signs: • Movements only when stimulated or no movement at all • Sunken eyes • Skin pinch goes back very slowly	**SEVERE DEHYDRATION**	• ***Give first dose of oral amoxycillin and intramuscular gentamicin.*** • ***Refer URGENTLY to hospital**** *with the mother giving frequent sips of ORS on the way.* • *Advise the mother to continue breastfeeding.* • *Advise the mother how to keep the young infant warm on the way to the hospital.*
Two of the following signs: • Restless, irritable • Sunken eyes • Skin pinch goes back slowly	**SOME DEHYDRATION**	
• Not enough signs to classify as some or severe dehydration	**NO DEHYDRATION**	• *Give fluids and breastfeeds to treat diarrhoea at home (Plan A).* • *Advise mother when to return immediately.* • *Follow-up up after 2 days if no improvement*

**If referral is not possible, see the section Where Referral is Not Possible*

Compare the signs that the young infant has to the signs listed in each row and choos the appropriate classification.

Remember:

- Classify all cases of diarrhoea for dehydration.
- Infants with signs of severe or some dehydration should be referred to hospital.
- A infant who is not dehydrated should be treated at home.

Exercise: Assess and classify for diarrhoea

Case 1: Neera

Neera is 7 weeks old female. Her weight is 3.0 kg. Her temperature is 37°C. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of possible serious bacterial infection. The mother says that Neera has not had convulsions. The health worker counts her breaths and finds she is breathing 58 breaths per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing. Her umbilicus is not red or no draining pus. There are no pustules.

She is crying and moving her arms and legs. When the health worker asks the mother about Neera's diarrhoea, the mother replies that it began 3 days ago. Neera is still crying. She stopped once when her mother put her to the breast. She began crying again when she stopped breastfeeding. Her eyes look normal, not sunken. When the skin of her abdomen is pinched, it goes back slowly. What is her classification?

MANAGEMENT OF THE SICK YOUNG INFANT AGE UPTO 2 MONTHS

Name: Neera Age: 7 weeks Gender: Female Weight: 3 kg Temperature: 37 °C/ °F Date: 13/02/2023
ASK: What are the infant's problems? Diarrhoea Initial visit? √ Follow up visit? _____

ASSESS (Circle all signs present)	CLASSIFY
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION/JAUNDICE • Is the infant having difficulty in feeding? • Has the infant had convulsions? • Count the breaths in one minute 58 breaths per minute Repeat if elevated _____ Fast breathing? • Look for severe chest indrawing • Measure axillary temperature (if not possible, feel for fever or low body temperature) - Is it < 35.5°C / 37.5 °C (95.9°F/99.5°F) or above? • Look at young infant's movements. If infant is sleeping, ask the mother to wake him/her ⇨ Does the infant move only when stimulated but then stops? ⇨ Does the infant not move at all? • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules • Look for jaundice (yellow skin), If present • Ask when did jaundice appeared – First 24 hours / After 24 hours • Look at the young infant's palms and soles. Are they yellow?	*Infection Unlikely*
DOES THE YOUNG INFANT HAS DIARRHOEA? Yes √ No ___ • Look at the young infant's general condition. ➢ Look at infant's movements: ⇨ Does the infant move only when stimulated and then stops? ⇨ Does the infant 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 ⇨ Slowly	*Some Dehydration*

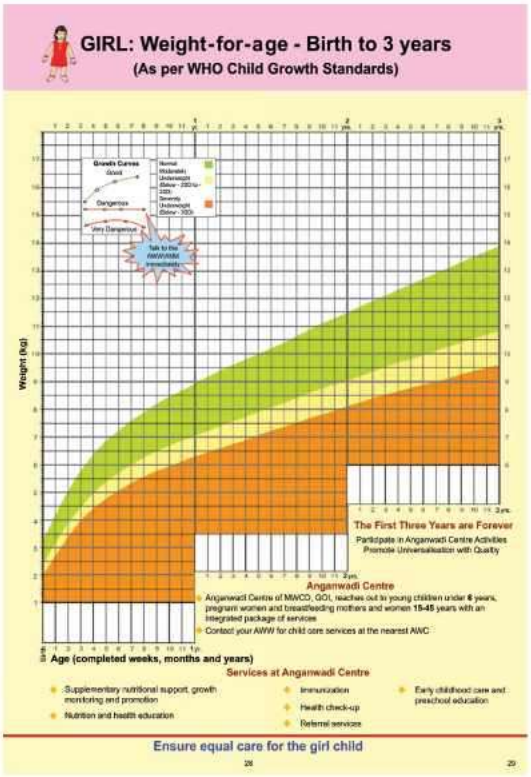
3.1.5 CHECK FOR FEEDING PROBLEM AND LOW WEIGHT FOR AGE

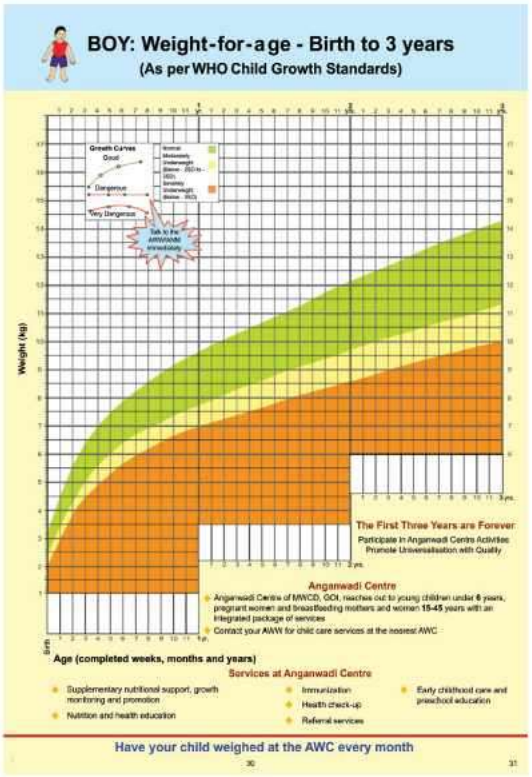
Every sick young infant should be checked for feeding problem and low weight for age

Assessment of feeding problem and low weight for age. Assessment of feeding in young infants has two parts. You determine weight and weight for age. All Young Infants are weighed. Young infants whose weight is less than 1800 gm in an infant less than 7 days/ weight for age
<- 3SD in infants 7-59 days old (red on MCP card) are classified as VERY LOW WEIGHT.

Take weight of the infant with minimum acceptable clothes and record. The Mother and Child Protection (MCP) Card is a familiar tool being used by most of you for over a decade now. The shape and form of the card may vary according to your states and you may have a different name for the card in your region such as 'Mamta Card' or 'Jaccha-Baccha Card'.







MCP Weight-for-Age Chart

In the weight-for-age chart, the horizontal line at the bottom of the Chart is the X Axis. This is for recording the age of the child and is called 'month axis'. The vertical line at the far left of the Chart is the Y Axis. This is for recording the weight of the child from birth onwards and is called 'weight axis'.

The month axis of each Growth Chart has three boxes, representing three years. Each box contains 12 small squares representing 12 months i.e. each small square on month axis represents 1 month. Age is recorded in completed weeks/ months/years. It is recorded in completed weeks only for a infant below 1 month. Similarly, on the weight axis, lines are marked for recording weight in kilograms and grams. Each thick extended line represents 1 kg, each line extended from a small square represents 500 gms. and very thin and small extended lines represent 100 gms. White rectangles below the 'month axis' are for writing months and years as per the date of birth of the child. On each visit, weight of the child taken is recorded under the relevant rectangle. A point on a Growth Chart, where a line extended from a measurement on the 'month axis' i.e. age, intersects with a line extended from a measurement on the 'weight axis' i.e. weight, is called a plotted point.

A Growth Curve is formed by joining the plotted points on a Growth Chart. The direction of the growth curve indicates whether the child is growing or not and is more important than the actual weight of the child at any point.

On each Growth Chart, there are 3 pre-printed Growth Curves. These are called Reference Lines or Z Score Lines and are used to compare and interpret the growth pattern of the child and assess her/ his nutritional status. The 1st/ top curve line on the growth chart is the median which generally speaking is the average. The other two curve lines are below the average and are at a distance.

Weight of all normal and healthy children plotted on the Growth Chart, fall above 2nd curve (dark green band); weight of moderately underweight children falls between the 2nd curve and to the 3rd curve (yellow band); and weight of severely underweight children fall below the 3rd curve (red band). A plotted point or a growth curve of a child, which is much above or far below from the 1st pre-printed curve indicates a growth problem.

MCP card is also a counselling and family empowerment tool which would ensure tracking of mother and child cohort for health, nutrition and development purpose. Use this card for assessing nutritional status, feeding counseling and counseling for development supportive practices.

The LOW WEIGHT infant includes those with weight between 1800 to 2500 gm or weight-for-age

<-2SD (yellow on MCP card) line. Infants who are Very Low Weight should be referred to a hospital. Infants who are Low Weight need special attention to how they are fed and on keeping them warm.

You can also check weight for age by checking SD scores in the table given below.

Weight for age Birth to 6 months

				Age*	Girl's (wt-for-age)			
-3 SD	-2 SD	-1 SD	Median		Median	-1 SD	-2 SD	-3 SD
2.1	2.5	2.9	3.3	0 weeks	3.2	2.8	2.4	2.0
2.2	2.6	3.0	3.5	1 weeks	3.3	2.9	2.5	2.1
2.4	2.8	3.2	3.8	2 weeks	3.6	3.1	2.7	2.3
2.6	3.1	3.5	4.1	3 weeks	3.8	3.3	2.9	2.5
2.9	3.3	3.8	4.4	4 weeks	4.1	3.6	3.1	2.7
3.1	3.5	4.1	4.7	5 weeks	4.3	3.8	3.3	2.9
3.3	3.8	4.3	4.9	6 weeks	4.6	4.0	3.5	3.0
3.5	4.0	4.6	5.2	7 weeks	4.8	4.2	3.7	3.2
3.7	4.2	4.8	5.4	8 weeks	5.0	4.4	3.8	3.3
3.8	4.4	5.0	5.6	9 weeks	5.2	4.6	4.0	3.5
4.0	4.5	5.2	5.8	10 weeks	5.4	4.7	4.1	3.6
4.2	4.7	5.3	6.0	11 weeks	5.5	4.9	4.3	3.8
4.3	4.9	5.5	6.2	12 weeks	5.7	5.0	4.4	3.9
4.4	5.0	5.7	6.4	13 weeks/ 3 months	5.8	5.1	4.5	4.0
4.9	5.6	6.2	7.0	4 months	6.4	5.7	5.0	4.4
5.3	6.0	6.7	7.5	5 months	6.9	6.1	5.4	4.8
5.7	6.4	7.1	7.9	6 months	7.3	6.5	5.7	5.1

** Age (in completed weeks and months)*

You also ask the mother questions to determine if she is having dificulty in feeding the infant; what the young infant is fed and how often.

ASK: Is the infant breastfed? If yes, how many times in 24 hours?

The young infant should 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.

ASK: 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/she receives it and the amount.

ASK: What do you use to feed the infant?

If a young infant takes other foods or drinks, find out if the mother uses a feeding bottle, cup or any other device.

IF AN INFANT HAS NO INDICATION OF EARLY REFERRAL

Assess breastfeeding

If the infant has a serious problem (for e.g.: diarrhoea, dehydration and jaundice) requiring urgent referral to a hospital, do not assess breastfeeding.

ASK: Has the infant breastfed in the previous hour?

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

(If the infant was fed during the previous hour, ask the mother if she can wait and tell you when the infant is willing to feed again.) In the meantime, complete the assessment by checking the infant's immunization status. You may also decide to begin any treatment that the infant needs, such as giving an antibiotic for local bacterial infection or ORS solution for some dehydration.

ASK: Does the mother have pain while breastfeeding?

Pain while breastfeeding may indicate sore nipples, breast engorgement or breast abscess.

LOOK: Is the infant able to attach?

The four signs of good attachment are:

- chin touching breast
- mouth wide open
- lower lip turned outward
- more areola visible above than below the mouth

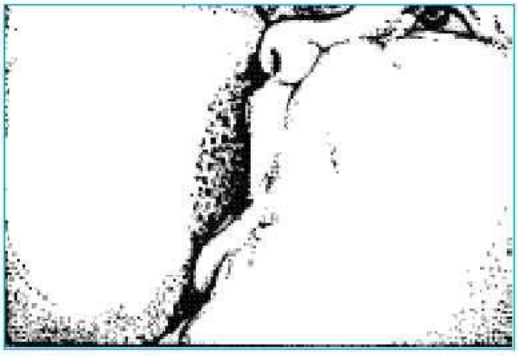
All of these signs should be present if the attachment is good.

If attachment is not good, you may see:

- chin not touching breast
- mouth not wide open, lips pushed forward
- lower lip turned in, or
- more areola (or equal amount) visible below infant's mouth than above it

If you see any of these signs of poor attachment, the infant is not well attached.

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.



Good attachment



Poor attachment

If an infant is not well attached, it may cause pain or damage to the nipples. Or the infant may not suckle breast milk effectively, which may cause engorgement of the breast.

The infant may be unsatisfied after breastfeeds and want to feed very often or for a very long time. The infant may get too little milk and not gain weight, or the breastmilk may dry up. All these problems may improve if attachment can be improved.

LOOK: Is the infant suckling effectively (that is 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. 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 not suckling at all is not able to suck breastmilk 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. Then check whether the infant can suckle more effectively.

LOOK: for ulcers or white patches in the mouth (thrush)

Look inside the mouth at the tongue and inside of the cheek. It is important to treat these infections so that the young infant feeds well.

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.

LOOK: for flat or inverted nipples, or sore nipples for engorged breast 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.

3.1.6 CLASSIFY FOR FEEDING PROBLEMS AND LOW WEIGHT FOR AGE

Here is the classification table for feeding problem:

SIGN	CLASSIFIED AS	PRE-REFERRAL TREATMENT
• Weight <1800 gm in infants less than 7 days • Weight for age less than-3SD in infants 7-59 days old (red on MCP card)	VERY LOW WEIGHT	• *Refer URGENTLY to hospital* • *Treat to prevent low blood sugar.* • *Warm the young infant by skin -to-skin contact if temperature less than 36.5°C/97.7°F (or feels cold to touch) while arranging referral.* • *Advise mother how to keep the young infant warm on the way to hospital.*

• Not well attached to breast or • Not suckling effectively or • Less than 8 breastfeeds in 24 hours or • Receives other foods or drinks or • Thrush (ulcers or white patches in mouth) or • Low weight for age (weight between 1800-2500 gm or weight for age yellow on MCP card i.e <- 2SD) or • Breast or nipple problems	**FEEDING PROBLEM AND/OR LOW WEIGHT**	• *If receiving other foods or drinks, counsel the mother about breastfeeding more, reducing other foods or drinks.* • *If not well attached or not suckling effectively, teach correct positioning and attachment.* • *If breastfeeding less than 8 times in 24 hours, advise to increase frequency of breastfeeding.* • *If not breastfeeding at all* - *refer for breastfeeding counseling and relactation.* - *advise mother about giving locally appropriate animal milk and teach the mother to feed with a cup and spoon* • *If thrush, teach the mother to treat thrush at home.* • *If low weight for age:* - *teach the mother how to keep the young infant warm at home.* - *advise to increase frequency of breastfeeding* • *If breast or nipple problem, teach the mother to treat breast or nipple problems.* • *Advise mother to give home care to the young infant.* • *Advise mother when to return immediately* • *Follow-up any feeding problem or thrush after 2 days.* • *Follow-up low weight for age after 14 days*
• Not low weight for age ≥-2SD (green on MCP card) and no other signs of inadequate feeding.	**NO FEEDING PROBLEM**	• *Praise the mother for feeding the infant well.* • *Advise mother to give home care to the young infant.* • *Advise mother when to return immediately*

If referral is not possible, see the section , where referral is not possible

Compare the signs that the young infant has to the signs listed in each row and choose the appropriate classification.

Why 'Not Able to Feed' is not mentioned in this classification chart?

The first and most severe classification, NOT ABLE TO FEED, was assessed when you checked for signs of serious disease or possible local infection. As such, this classification is not included on the classification chart for feeding problem or low weight for age.

If the infant was NOT ABLE TO FEED, it was a severe classification (PINK) because this infant has a life-threatening problem. The infant requires the same urgent pre-referral as SEVERE DISEASE, and then must be urgently referred.

Remember:

- A young infant who weighs less than 1800 gm in first seven days or has W/A <-3SD (orange classification on MCP card) has the classification VERY LOW WEIGHT and should be urgently referred to hospital
- The mother of a young infant with the classification FEEDING PROBLEM or LOW WEIGHT FOR AGE (yellow classification) should be counselled for feeding.
- A young infant who has no feeding problem has the classification NO FEEDING PROBLEM (green classification). The mother should be praised & should be advised for home care.

3.1.7 CHECK IMMUNIZATION STATUS

Here is the classification table for feeding problem:

Immunization helps protect young infants from infections that can be especially dangerous at their young age. The immunization status of all children, who are seen by you, should be checked. If any immunization is due, advise the mother to get the immunization at the earliest opportunity. You should give vaccination as per your local authorities guidelines as few vaccines are available in only few districts.

THEN CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS

IMMUNIZATION SCHEDULE:

AGE	VACCINE
Birth	BCG, OPV-0, Hep B- Birth Dose
6 weeks	Penta-1, OPV-1, Rotavirus-1, fIPV-1, PCV-1

Remember *that you should not give OPV 0 to an infant who is more than 14 days old. Therefore, if an infant has* ***not*** *received OPV 0 by the time he is 15 days old, you should wait to give OPV until he is 6 weeks old. Then give OPV 1 together with Penta 1. HEP-B 0 should be given at birth or as early as possible within 24 hours of birth.*

Administer any immunization that the young infant needs today. Tell the caregiver when to bring the infant for the next immunization, and record this on your recording form. **If the young infant is going to be referred, do not immunize before referral**.

3.1.8 ASSESS OTHER PROBLEMS

Assess any other problems mentioned by the mother or observed by you. If you think the young infant has a serious problem, or you do not know how to help the young infant, refer the young infant to a hospital.

3.1.9 ASSESS THE MOTHER/CAREGIVER'S DEVELOPMENT SUPPORTIVE PRACTICES & COUNSEL FOR PRACTICES TO SUPPORT CHILD'S DEVELOPMENT USING MCP CARD

Assess the mother/caregiver's usual practices & counsel for practices to support Child's Development using MCP Card. Compare mother's answers to the Recommendations for child's develop ment

Case 1: Neera

Neera is 7 weeks old female. Her weight is 3.0 kg. Her temperature is 37°C. Her mother has brought her because she has diarrhoea. The health worker first assesses her for signs of possible serious bacterial infection. The mother says that Neera has not had convulsions. The health worker counts her breaths and finds she is breathing 58 breaths per minute. She was sleeping in her mother's arms but awoke when her mother unwrapped her. She has slight chest indrawing. Her umbilicus is not red or no draining pus. There are no pustules.

She is crying and moving her arms and legs. When the health worker asks the mother about Neera's diarrhoea, the mother replies that it began 3 days ago. Neera is still crying. She stopped once when her mother put her to the breast. She began crying again when she stopped breastfeeding. Her eyes look normal, not sunken. When the skin of her abdomen is pinched, it goes back slowly.

The mother says that she has no dificulty feeding her. She breastfeeds about 5 times in 24 hours. She gives her cow's milk 3 times by bottle for last 10 days. The worker uses the weight-for-age chart and determines that Neera has very low weight.

Answer

Since Neera's mother is feeding less than 8 times in 24 hours and is taking other foods or drinks, there is feeding problem. However there is an indication for urgent referral so breastfeeding assessment was not done.

MANAGEMENT OF THE SICK YOUNG INFANT AGE UPTO 2 MONTHS

Name: Neera **Age:** 7 weeks **Gender:** Female **Weight:** 3 kg **Temperature:** 37 °C/ °F **Date:** 13/02/2023

ASK: What are the infant's problems? Diarrhoea **Initial visit?** √ **Follow up visit?**_____

ASSESS (Circle all signs present)	CLASSIFY
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION/JAUNDICE • Is the infant having difficulty in feeding? • Has the infant had convulsions? • Count the breaths in one minute 58 breaths per minute Repeat if elevated _____ Fast breathing? • Look for severe chest indrawing • Measure axillary temperature (if not possible, feel for fever or low body temperature) - Is it < 35.5°C/ 37.5 °C °C(95.9°F/99.5°F) or above? • Look at young infant's movements. If infant is sleeping, ask the mother to wake him/her ⇨ Does the infant move only when stimulated but then stops? ⇨ Does the infant not move at all? • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules • Look for jaundice (yellow skin), If present • Ask when did jaundice appeared – First 24 hours / After 24 hours • Look at the young infant's palms and soles. Are they yellow?	*Infection Unlikely*
DOES THE YOUNG INFANT HAS DIARRHOEA? Yes √ No ___ • Look at the young infant's general condition. ➢ Look at infant's movements: ⇨ Does the infant move only when stimulated and then stops? ⇨ Does the infant 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 ⇨ Slowly	*Some Dehydration*
THEN CHECK FOR FEEDING PROBLEM & VERY LOW WEIGHT • Has the infant breastfed in the previous hour? Yes _____ No √ If yes, how many times in 24 hours? 5 times • Does the infant usually receive any other foods or drinks? **Yes** √ **No** _____ ⇨ If yes, how often? 3 ⇨ What do you use to feed the infant? cow's milk, feeding bottle • Measure Weight ⇨ Is it less than 1800 gm? ⇨ Is it 1800 – 2500 gm? • Determine weight for age by plotting weight on MCP card ⇨ Red (<- 3 SD) ⇨ Yellow (<- 2 SD to -3SD) ⇨ Green (≥ -2SD) • Look for ulcers or white patches in the mouth (thrush) Is there any indications for urgent Referral-Yes/No? If no **ASSESS BREASTFEEDING**	*Feeding Problem*
ASSESS BREASTFEEDING: • Has the infant breastfed in the previous hour? • If infant has not breastfed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfed for 4 minutes. • Check for attachment ⇨ 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____ • Is the infant able to attach? ⇨ no attachment at all ⇨ not well attached ⇨ good attachment • Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)? ⇨ not suckling at all ⇨ not suckling effectively ⇨ suckling effectively • Does the mother have pain while breastfeeding? If yes, then look for: ⇨ Flat or inverted nipples or sore nipples	
CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS Circle immunization needed today Birth BCG OPV 0 HEP-B 0 6 weeks Penta-1 OPV-1 Rotavirus-1 fIPV-1 PCV-1	Circle immunization needed today Return for next immunization on: _____(Date)

3.2 IDENTIFY TREATMENT

The "Identify Treatment" column lists the treatments for the young infant's classification.

If the infant has more than one classification, strike out wherever there are duplicate instructions. For example, if the young infant has a pink classification Possible Serious Bacterial Infection and also has another pink classification Severe Dehydration, strike out Refer to the hospital from the treatments listed in one of the two boxes.

- A young infant with a PINK classification should be referred to hospital after giving appropriate pre-referral treatments listed.
- A young infant with a YELLOW classification should be provided all the listed treatments.
- The mother of a young infant with a GREEN classification should be advised to give home care.

There will be a demonstration for identifying treatment

EXERCISE ON IDENTIFYING TREATMENT

In this exercise you will decide whether or not urgent referral is needed. Tick the appropriate answer.

1. Sarla is an 11-day-old girl. She has the classification:
   LOCAL BACTERIAL INFECTION, NO FEEDING PROBLEM
   Does Sarla need urgent referral? YES NO
   Identify the treatment she needs:
2. Neena is a 6-week-old girl. She has the classification:
   POSSIBLE SERIOUS BACTERIAL INFECTION
   Does Neena need urgent referral? YES NO
   What is the pre-referral treatment that she needs?
3. Hanif is a 7-day-old boy. He has the classification:
   Diarrhoea with NO DEHYDRATION and FEEDING PROBLEM
   Does Hanif need urgent referral? YES NO
4. Habib is a 19-day-old boy. He has:
   POSSIBLE SERIOUS BACTERIAL INFECTION
   Does Habib need urgent referral? YES NO

HOW DO YOU URGENTLY REFER THE CHILD?

Children with PINK Classification require urgent pre referral treatment and referral. These classifications indicate very serious illness

There are four steps to referring a child or a sick young infant to hospital:

1. EXPLAIN to the caregiver the need for referral, and get her agreement to take the child. If you suspect that she does not want to take the child, find out why. Possible reasons might be:

- She thinks hospitals are places where people often die. She fears her infant will die there too.

- She does not think that the hospital will help the infant.
- She cannot leave home and stay in the hospital to care for her infant, if there is no one to take care of her other children, or she is needed for farming, or she may lose a job.
- She does not have money to pay for transportation, hospital bills, medicines, or food for herse.
- lf during the hospital stay.

2. CALM the caregiver's fears and help her resolve any problems.

For example: if the caregiver fears that her infant will die at the hospital, reassure her that the hospital has physicians, supplies, and equipment that can help cure her baby.

- Explain what will happen at the hospital and how that will help her baby.
- If the caregiver needs help at home while she is at the hospital, ask questions and make suggestions about who could help. For example, ask whether her husband, sister or caregiver could help with the other children or with meals while she is away.
- Discuss how she can travel to the hospital. Help arrange transportation if necessary.
- You may not be able to help the caregiver solve her problems and be sure that she goes to the hospital. However, it is important to do everything you can to help.

3. WRITE A REFERRAL NOTE for the caregiver to carry.

Tell her to give it to the health worker there. The note should include:

- The name and age of the infant or child. The date and time of referral, description of the child's problems.
- The reason for referral (signs/symptoms for classification). Treatment that you have given
- Any other information that the hospital needs to know in order to care for the infant, such as earlier treatment of the illness or immunizations needed.
- Your name and the name of your clinic.

4. GIVE SUPPLIES AND INSTRUCTIONS NEEDED to care for her infant on the way to the hospital:

If the hospital is far, give the caregiver additional doses of antibiotic and tell her when to give them during the trip (according to dosage schedule on the TREAT chart). If you think the caregiver will not actually go to the hospital, give her the full course of antibiotics, and teach her how to give them.

- Tell the caregiver how to keep the young infant warm during the trip. Advise the caregiver to continue breastfeeding.
- If the infant has some or severe dehydration and can drink, give the caregiver some ORS solution for the infant to sip frequently on the way.

REMEMBER: any infant with a general danger sign or a serious classification requires urgent referral. Separate section will describe the steps, if referral is not possible/refused

3.3 TREAT THE YOUNG INFANT

Facilitator will tell you how to use the TREAT section. TREAT section is organized into many subsections. Review various sub sections in the job-aid.

3.3.1 REFER THE INFANT

Write on the referral card the name, age and sex of the young infant; date and time of referral; include all problems that were identified and the classification, the treatment that has been given. Any other information that the staff at the referral hospital need to know about. Do not forget to write your name and the clinic. A referral card is shown in the illustration below.

REFERRAL CARD

Name Age: Gender: Date:

Signs

Classification

Treatment advice

Signatures

Designation & Seal

Young infants with a PINK classification require referral. The following steps are necessary for a successful referral:

1. Explain to the mother the need for referral and get her agreement to take the young infant. If she appears reluctant then find out the reasons for this.
2. Solve the problems and calm her fears. Some common problems and their possible solutions are summarized in the table.
3. Write a referral card for the mother to take to the hospital, tell her to give this card to the doctor in the hospital.
4. Give any urgent treatment before the mother leaves you and provide any instructions that the mother should follow while on her way to the hospital.

(a) If it has been determined that the young infant should be given antibiotics then make sure to give the first dose of antibiotic in your presence. Give an extra dose of this medicine if it is going to take a long time before the infant reaches the hospital. (If you are certain that the mother will not take the infant to the hospital then it is advisable that the entire course of antibiotic should be given).

(b) Advise the mother to continue to breastfeed the baby while transporting the baby.

(c) If the young infant has severe dehydration and the infant can feed then the mother must continue to give sips of ORS once every minute or two minutes throughout when she is travelling to the referral facility.

There will be Role Play followed by a Group Discussion

Give a single dose of amoxycillin and injection gentamicin as pre-referral treatment to infants with POSSIBLE SERIOUS BACTERIAL INFECTION or DEHYDRATION.

Administer injection gentamicin along with oral amoxycillin to young infants suspected with sepsis under the following situations;

- Pre-referral dose - The ANM will give the first dose of each antibiotic before referral to a health facility.
- Completion of antibiotic treatment - If the infant has not completed a course of either of the antibiotics following discharge from a health facility, the ANM will complete the course of the treatment as prescribed by the Medical Officer.
- Referral not possible or refused - Under this special situation where referral is not possible or is refused, the ANM will continue to give treatment for 7 days.

When referral is not possible, see the section Where Referral is Not Possible.

Giving Injection Gentamicin

Dosage: 5-7.5 mg/kg

- Route of administration: intramuscular
- Site of Injection: Antero-Lateral aspect of the thigh
- Preparation: Prefer to use 20 mg/ ml strength (may be prepared by adding 2 ml sterile water in 80 mg/ 2 ml vial i.e. total volume 4 ml giving strength of 20 mg/ml).

Choose the dose from the row of the table that is closest to the infant's age and weight.
Storage: Gentamicin is a heat stable drug and can be maintained at room temperature. There is no need for refrigerator/cold chain maintenance for the storage of the drug.

- Syringe and needle: 1 ml disposable syringe with 23 gauge needle should be used. Alternatively, insulin syringe could be used. Auto disposable syringes provided for immunization should not be used because of varying dosage marking.
- Duration of treatment: Total duration of treatment is 7 days. In cases of follow up treatment, the ANM may follow the advice as per the discharge ticket/ doctor's prescription.

Give the full course of amoxycillin to infants with LOCAL BACTERIAL INFECTION at home.

Give amoxycillin by mouth every morning and every night for five days.

- Give oral amoxycillin and intramuscular gentamicin.
- Give one dose for possible serious bacterial infection or diarrhoea with dehydration or very low weight.
- Give oral amoxycillin twice daily for 5 days in cases with local bacterial infection.
- Determine the dose appropriate for the infant's weight (or age).
- Use a sterile needle and sterile syringe. Measure the dose accurately.
- Give the drugs as an intramuscular injection.

Weight	Amoxycillin oral			Gentamicin[$] Dose: 5 - 7.5 mg /kg /day	
	Syrup (125 mg/5 ml) per dose in ml	Tab 125 mg (per dose)	Tablet 250 mg (per dose)	Strength 80 mg/ 2 ml vial (40 mg / ml)	Strength 20 mg/ ml[#]
<1.5kg	2 ml	.	¼	0.2 ml	0.4 ml
1.5kg upto 2.0 kg	2 ml	½	¼	0.2 ml	0.4 ml
2kg upto 3.0 kg	2.5 ml	½	¼	0.3 ml	0.6 ml
3kg upto 4.0 kg	3.5 ml	1	½	0.4 ml	0.8 ml
4kg upto 5.0 kg	5.0 ml	1	½	0.5 ml	1.0 ml

[$]Explain to the mother why the drug is given

[#]Prefer to use 20 mg/ ml strength (may be prepared by adding 2 ml sterile water in 80 mg/ 2 ml vial i.e. total volume 4 ml giving strength of 20 mg/ml).

If referral is not possible:

- Referral is the best option for a young infant classification with POSSIBLE SERIOUS BACTERIAL INFECTION, DIARRHEA WITH SEVERE/SOME DEYDRATION AND LOW WEGHT FOR AGE/VERY LOW WEIGHT
- If referral is not possible or refused, give oral amoxycillin (25-30 mg/kg) every 12 hrs and intramuscular gentamicin once daily. Teach the mother how to keep the young infant warm at home and how to prevent low blood sugar. At each contact for injection of antibiotics, explain again to the caregiver that the infant is very sick and should urgently be referred for hospital. Continue giving once-daily intramuscular gentamicin and twice-daily oral amoxycillin until referral is feasible or for 7 days.
- Urgent referral is also needed in SEVERE JAUNDICE. Explain and counsel for urgent referral at each visit.

Treat the Young Infant to Prevent Low Blood Sugar

If the child is able to breastfeed:

- Ask the mother to breastfeed the child.

If the child is not able to breastfeed but is able to swallow:

- Give 20-50 ml (10 ml/kg) of expressed breastmilk or locally appropriate animal milk (with added sugar) before departure. If neither of these is available, give 20-50 ml (10 ml/kg) of sugar water.

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

If the child is not able to swallow:

- Give 20-50 ml (10 ml/kg) of expressed breastmilk or locally appropriate animal milk (with added sugar) or sugar water by nasogastric tube.

Teach the mother how to give oral drugs to the infant at home

STEPS IN TEACHING THE MOTHER TO GIVE ORAL DRUGS AT HOME

- Determine the appropriate drugs and dosage for the infant's age or weight.
- Tell the mother the reason for giving the drug to the infant.
- Demonstrate how to measure a dose.
- Watch the mother practice measuring a dose by herself.
- Ask the mother to give the first dose to her infant.
- Explain carefully how to give the drug, then label and pack the drug.
- If more than one drug will be given, collect, count and pack each drug separately.
- Explain that all the oral drug tablets or syrups must be used to finish the course of treatment, even if the infant gets better.
- Check the mother's understanding before she leaves the clinic.

Ask the mother checking questions to make sure that she has understood all the steps of preparing the medicine for giving it to the young infant.

There will be an exercise on asking good checking questions followed by a demonstration role play on teaching the mother how to give oral drugs at home.

Teach the mother how to keep the young infant with low weight warm at home

It is important to keep the young infant warm. Low temperature has an adverse impact on the sick young infant and increases the risk of death. Maintaining temperature is especially important in low weight babies.

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/77°F) 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 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

KEEP THE YOUNG INFANT WARM

The best way to maintain temperature warm a baby with low temperature is by placing the baby in skin-to-skin contact with the mother (or any adult). Skin-to-skin contact can also be used to keep a baby warm during transport and at home.



Small childern must be kept warm

Warm the young infant using skin-to-skin contact (Kangaroo Mother Care):

- Provide privacy to the mother. If mother is not available, skin-to-skin contact may be provided by the father or any other adult.
- Request the mother to sit or recline comfortably.
- Undress the baby gently, except for cap, nappy and socks.
- Place the baby prone on mother's chest in an upright and extended posture, between her breasts, in skin-to-skin contact; turn baby's head to one side to keep airways clear
- Cover the baby with mother's blouse, 'pallu' or gown; wrap the baby-mother duo with an added blanket or shawl.
- Breastfeed the baby frequently.

If possible, warm the room (>25°C/77°F) with a heating device.

Skin-to-skin contact is the most practical, preferred method of wa rming a hypothermic infant in a primary health care facility. If not possible: Clothe the baby in 3 -4 layers, cover head with a cap, put gloves, socks and cover body with a soft, dry cloth and then by a blanket or a shawl; hold baby close to caregiver's body.

- **Keep the young infant warm on the way to the hospital**
  - By skin-to-skin contact OR
  - Clothe the baby in 3-4 layers, cover head with a cap and body with a blanket or a shawl; hold the baby close to the caregiver's body.

Teach the mother to treat local infection at home

Teach mother to give local treatment for skin pustules and umbilical infection in addition to giving oral amoxycillin. Also teach the mother to treat young infants with thrush (mouth ulcers).

- Explain how the treatment is given at home
- Watch her as she gives the first treatment in the clinic
- She should return to the clinic if the infection worsens
- Check the mother's understanding before she leaves the clinic

Follow the following instructions to treat local infection at home:

To Treat Skin Pustules or Umbilical	*To Treat Thrush (ulcers or white patches in mouth)*
• Apply gentian violet paint twice daily The mother should: - Wash hands - Gently wash off pus and crusts with soap and water - Dry the area and paint with gentian violet 0.5% or antibacterial ointment - Wash hands again	• Tell the mother to do the treatment twice daily The mother should: - Wash hands - Wash mouth with clean soft cloth wrapped around the finger and wet with salt water - Paint the mouth (ulcers/patches) with gentian violet 0.25% - Wash hands again

3.1.2 TREATMENT OF DIARRHOEA

Plan A: Treat diarrhoea at home

The best way to treat diarrohea at home includes giving the young infant extra fluid and continue feeding. If an infant is exclusively breastfed, breastfeed frequently and for longer at each feed. If passing frequent watery stools, give ORS and clean water in addition to breast milk in infant less than 6 months. Remind the mother to stop giving ORS solution after the diarrhoea has stopped.

If the infant is not exclusively breastfed: Give one or more of the following home fluids; ORS solution, or plain clean water.

TEACH THE MOTHER HOW TO MIX AND GIVE ORS. GIVE THE MOTHER 2 PACKETS OF ORS TO USE AT HOME. SHOW THE MOTHER HOW MUCH FLUID TO GIVE IN ADDITION TO THE USUAL FLUID INTAKE:

- <2 months- 5 spoons after each loose stool.
- 2 months upto 2 years- 1/4 cup to 1/2 cup after each loose stool.
- 2 years or more- 1/2 cup to 1 cup after each loose stool.

Tell the mother to:

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

3.1.3 COUNSEL THE MOTHER OF A YOUNG INFANT WITH THE CLASSIFICATION 'FEEDING PROBLEM'

Locate the following sections in the chart booklet and counsel the mother using good communication skills.

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 infant's whole body, not just neck and shoulders
- **Show the mother how to help the infant to attach, she should:**
  - touch her infant's lips with her 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
- **Look for signs of good attachment and effective suckling. If the attachment or suckling is not good, try again.**

	
Correct breastfeeding position	**Incorrect breastfeeding position**
• Baby's body should be straight, not bent or twisted. His head can be slightly extended at the neck, which helps his or her chin to be close to the breast. • Baby should be facing the breast with nose opposite to the nipple. • Baby's body should be close to the mother which enables the baby to be close to the breast, and to take a large mouthful. • Baby's whole body should be supported.	• Infant's neck is twisted or bend forward • Baby's body turned away from mother. • Baby's whole body not well supported • No mother baby eye contact.

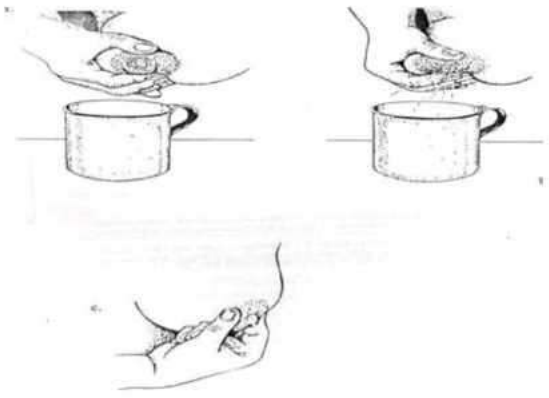
	
Good Attachment	**Poor Attachment**
• The baby's chin touches the breast • The baby's mouth is wide open • The baby's lower lip is turned outwards • Most of the areola is inside baby's mouth and small part of it is seen above the baby's mouth only.	• The baby's chin does not touch the breast. • The baby's mouth is not wide open. • The baby's lower lip is not turned outwards. • The same area of areola is seen above and below the baby's mouth.

Teach the mother to treat breast and nipple problems

- If the nipple is flat or inverted, evert the nipple several times with fingers before each feed and put the baby to the breast.
- If nipple is sore, apply breast milk for soothing effect and ensure correct positioning and attachment of the baby. If mother continues to have discomfort, feed expressed breast milk with a cup.
- If breasts are engorged, let the baby continue to suck if possible. If the baby cannot suckle effectively, help the mother to express milk and then put the young infant to the breast. Putting a warm compress on the breast may help.
- If breast abscess, advise mother to feed from the other breast and refer to a surgeon. If the young infant wants more milk, feed undiluted animal milk with added sugar by cup and spoon.

Teach the mother how to express breast milk

- 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 to 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.



Teach the mother to feed with a cup and spoon (donor human milk/ animal milk)

- 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 swallows it. DO NOT pour the milk into the infant's mouth.

Principles of Communication while Counselling

ASK and LISTEN	As you have learnt earlier
PRAISE	It is likely that the mother has done something helpful for the baby, for example, seeking care for the current illness episode. Praise the mother ONLY for something helpful she has done. Be sure that the praise is genuine, and only praise actions that are indeed helpful to the child.
ADVISE	Limit your advice to what is relevant to the mother at this time. If possible, use pictures or real objects to help explain. Advise against any harmful practices that the mother may have reported, for example giving honey or sugar water. Do not make the mother feel guilty but explain why the practice is harmful.
CHECK UNDERSTANDING	Ask questions to find out what the mother understands and what needs further explanation. Avoid asking questions that can be answered with a simple yes or no. Examples of good checking questions are: "How often will you breastfeed the baby?" or "Why is it important not to give the baby anything other than breast milk?" If you get an unclear response, ask another checking question. Praise the mother for correct understanding or clarify your advice as necessary.

Common breastfeeding problems and possible solutions

Breastfeeding problem	Counsel the mother
Mother feels her milk is not enough for the baby	• Increase your food and fluid intake • Breastfeed in a relaxed environment free from any mental stress • Take some rest during the day • Breastfeed frequently including at night, at least 8 times during 24 hours • Breastfeed until the breast is completely empty. Then feed from the other breast
Young infant is being fed with a bottle, cotton or dropper	• If possible, stop other foods and fluids and give only breast milk upto 6 months of age • If not possible, give undiluted animal milk with a katori and spoon
Mother works outside home	• Breastfeed frequently before going to work and after returning home, including at night • Express breastmilk before leaving for work and ask the caretaker to feed the young infant with a katori and spoon • If necessary, supplement with top milk. Ask the caretaker to give undiluted animal milk with a katori and spoon

Teach the mothers how to feed with a cup and spoon (donor human milk/ animal milk) in case of no prospects of breastfeeding

Mother/caregiver feeds infant with cup, and does not use bottles, teats, or spouted cups.

Assess readiness for cup feeding:

- Rest the cup against the infant's lips, with milk touching infant's top lip.
- Wait and watch for infant response. If no response, try at next feed.

Counsel the mother or caregiver to:

- Put a cloth on the infant's front to protect his clothes as some milk can spill.
- Hold the infant upright or semi-upright on the lap. Put a measured amount of milk in the cup.
- Hold the cup resting on the lower lip and tilt the cup so that the milk touches the infant's upper lip.
- Wait for the infant to draw in or suck in the milk. Allow the infant to take the milk himself.
- DO NOT pour the milk into the infant's mouth. Caregiver should pause and let infant rest after every few sucks.
- Caregiver should pay attention to infant, look into infant's eyes and be responsive to infant's cues for feeding.
- Do not reuse any milk the infant does not drink for another feeding.

Advise Mother to Give Home Care

- Immediately after birth, 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-up self.
- Breastfeed as often as your baby wants. Look for signs of hunger, such as beginning to fuss, sucking fingers, or moving lips.
- DO NOT give other foods or fluids. Breastmilk 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.
- Wash hands with soap and water after defecation and after cleaning bottom of the baby.
- Do not apply anything on the cord and keep the umbilicus cord dry.Advise the mother to return immediately if the young infant has any of these danger 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.

When to Return Immediately:

- Advise the mother to return immediately if the young infant has any of these signs:
- Breastfeeding or drinking poorly
- Becomes sicker
- Develops a fever or feels cold to touch
- Fast breathing
- Difficult breathing
- Yellow palms and soles (if the infant has jaundice)
- Blood in stool

3.3.4 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 visit 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.
- Advise her to eat well to keep up her own strength and health. Advise her to take one additional energy dense meal to meet requirements for good lactation.
- Give iron folic acid (1 tab 60 mg elemental iron daily + 500 microgram folic acid) & Calcium tablets (500 mg elemental calcium with 250 IU Vitamin D twice daily). Advise her to continue it for a total of 180 days.
- Make sure she has access to:
  - Contraceptives
  - Counselling on STD and AIDS prevention

3.3.5 ASSESS AND COUNSEL THE MOTHER /CAREGIVER FOR DEVELOPMENT SUPPORTIVE PRACTICES

First thousand days are period of rapid brain growth. Stimulation and development supportive practices are important for achieving child full development potential.

If the mother does not breastfeed, counsel the mother to:

- Hold the baby close when feeding, look at the baby, and talk or sing to the baby.
- If caregivers do not know what the baby does to play or communicate:
- Remind caregivers that babies play and communicate from birth.
- First thousand days are period of rapid brain growth. Stimulation and development supportive practices are important for achieving child full development potential.



- Demonstrate how the baby responds to activities
- If caregivers feel too burdened or stressed to play and communicate with the baby:
- Listen to the caregiver's feelings, and help them identify a key person who can share their feelings and help them with their baby.



- Build their confidence by demonstrating their ability to carry out a simple activity.
- Refer caregivers to a local service, if needed and available.

If caregivers feel that they do not have time to play and communicate with the baby:

- Encourage them to combine play and

communication activities with other care for the child.

- Ask other family members to help care for the baby or help with chores.

If caregivers have no toys for the baby to play with, counsel them to:

- Use any household objects that are clean and safe.
- Make simple toys.
- Play with the baby. The baby will learn by playing with the caregivers and other people.

If the baby is not responding, or seems slow :

- Encourage the family to do extra play and communication activities with the baby.
- Check to see whether the baby is able to see and to hear.
- Refer the baby with difficulties to special services.
- Encourage the family to play and communicate with the baby through touch and movement, as well as through language.

If the mother or father has to leave the baby with someone else for a period of time:

- Identify at least one person who can care for the baby regularly, and give the baby love and attention.
- Get the baby used to being with the new person gradually.
- Encourage the mother and father to spend time with the baby when possible.

If it seems that the baby is being treated harshly:

- Recommend better ways of dealing with the baby.
- Encourage the family to look for opportunities to praise the baby for good behaviour.
- Respect the baby's feelings. Try to understand why the baby is sad or angry.
- Give the baby choices about what to do, instead of saying "don't"

Counsel the mother /caregiver for practices to support child's development:

- If the mother reports she does not play with baby: Discuss ways to help baby see, hear, feel and move, appropriate for baby's age and Ask caregiver to do play or communication activity, appropriate for age.
- If the mother reports she does not talk to child or talks harshly to child: Ask caregiver to looks into baby's eye, gently hold and talk to the baby

3.3.6 FOLLOW-UP CARE

Advise the mother when to return for follow-up visit as per the schedule given in the box below:

	When to Return
• Feeding problem	2 days
• Jaundice	2 days
• Diarrhoea	2 days
• Any local infection	2 days
• Low weight for age	14 days

What are you going to do when the young infant comes for follow-up visit?

Jaundice:

An infant with Jaundice should be seen after 2 days

- If the sole and palm are yellow now Refer to a hospital URGENTLY
- If the infant is more than 2 weeks now and jaundice is persisting , refer to a hospital
- If the sole and palm are not yellow and less than 2 weeks of age , call after 2 days for FU

Feeding problems:

When a young infant returns for follow-up, reassess feeding.

Review with the mother the changes that the mother has been able to bring about in the infant's feeding.

• Have her attempts been successful?	• If successful, reassure the mother and ask her to continue
• If the mother has not been able to follow the advice	• Find out the reasons and try to correct them • Ask her to come back after 2 days

If you do not think that feeding will improve, refer the infant.

Diarrhoea:

A young infant with diarrhoea should be seen after 2 days.

Assess dehydration as described in chart booklet, and review the feeding.

Assessment Findings	Treatment
• If young infant has some or severe dehydration or blood in stool or any sign of possible serious bacterial infection or if duration of diarrhoea is 14 days or more	• ***Refer urgently to hospital***
• If duration of diarrhoea less than 14 days, no blood in the stool and young infant has no dehydration	• Continue breastfeeding and ORS with clean, preferably boiled water

Any Local Infection:

If the young infant is getting better, continue the treatment. However, if the young infant becomes worse or the baby has the same condition, refer to a doctor/hospital.

Low Weight for Age:

If the infant is gaining weight and feeding well, praise the mother and continue treatment. However, if the young infant becomes worse or the baby has the same condition, refer to doctor/ hospital.

3.4 ASSESS AND CLASSIFY THE SICK CHILD

The process to assess and classify the sick child aged 2 months upto 5 years is very similar to the one you learnt for the young infant.

Begin by asking the Child's Name and Age. Ask The Mother, What the Child's Problems Are. Select the case management section, Assess and Classify the Sick Child aged 2 Months upto 5 Years and follow the steps.

3.4.1 CHECK FOR GENERAL DANGER SIGNS

A child with any general danger sign needs *URGENT* attention; complete the assessment and any pre-referral treatment immediately so referral is not delayed.

ASK:	***LOOK:***	***SIGNS:***
• Is the child able to drink or feed? • Does the child vomit everything? • Has the child had convulsions?	• See if the child is lethargic or unconscious. • Is the child convulsing now?	• Not able to drink or feed or • Vomits everything or • Lethargic or unconscious or • Convulsions/ convulsing now

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 severe disease.

Every child who is seen for an illness should be checked for the presence of the following general danger signs:

- Not able to drink or breastfeed
- Vomits everything
- Lethargic or unconscious
- Convulsions

ASK: Is the child able to drink or feed?

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

If the mother says that the child is not able to drink or feed, 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 clean water or breastmilk to drink. Look to see if the child is swallowing the water or breastmilk.



Child not able to drink

A child who is breastfed may have difficulty sucking 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 feed."

ASK: Does the child vomit everything?

A child who is not able to hold anything down at all has the sign: "vomits everything." What goes down comes back up. A child who vomits everything will not be able to hold down food, fluids or oral drugs. A child who vomits several times but can hold down some fluids does not have this general danger sign.

LOOK: See if the child is lethargic or unconscious.

The 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.
The unconscious child does not awaken at all. This child does not respond to touch, loud noise or pain.
Note: If the child is sleeping and has cough or difficult breathing, count the number of breaths first before you try to wake the child.

ASK: Has the child had convulsions?

Ask the mother questions on whether the child has suffered from convulsions or not (use local term for convulsion).

- 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.

3.4.2 ASSESS AND CLASSIFY COUGH OR DIFFICULT BREATHING

THEN ASK ABOUT MAIN SYMPTOMS:
Does the child have cough or difficult breathing?

IF YES, ASK:	LOOK, LISTEN:	
• For how long?	• Count the breaths in one minute. • Look for chest indrawing. • Check oxygen saturation: <90% or >90%	} CHILD MUST BE CALM

Ask the mother if the child has cough or difficult breathing. If the child has no cough or difficult breathing, do not assess for the same. If the mother says that the child has cough or difficult breathing:

ASK: For how long?

A child who has had cough for more than 14 days needs to be **referred to hospital** for further assessment.

COUNT the breaths in one minute.

Count the breaths the child takes in one minute as you have learnt earlier. Decide whether the child has normal breathing or fast breathing.

If the child is:	The child has fast breathing if you count:
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.

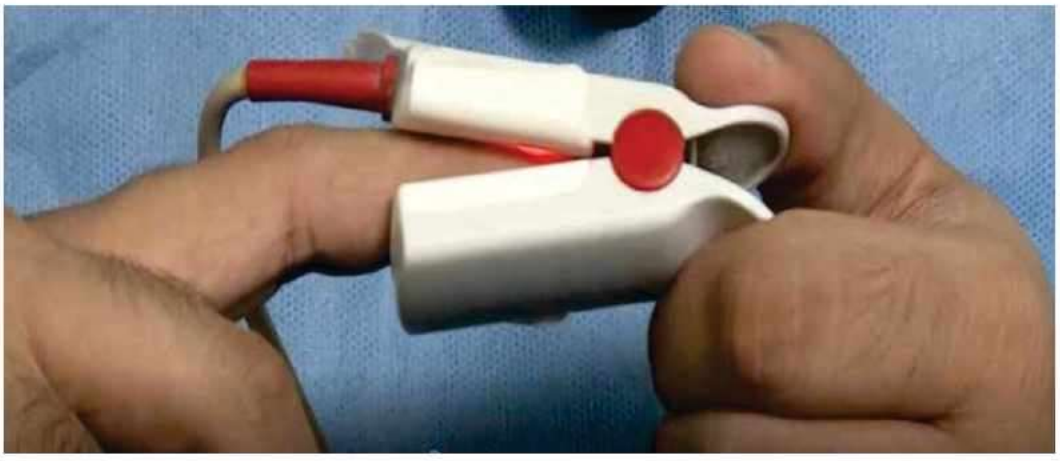
LOOK for Chest Indrawing

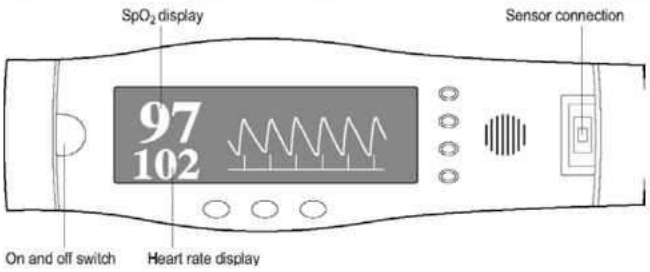
Chest indrawing in a child with cough or difficult breathing indicates that the child has severe pneumonia. Unlike young infants, mild chest indrawing is **NOT** normal in a child. A child with any chest indrawing should be referred to hospital.



CHECK Oxygen saturation (SpO_2)

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 probe with alcohol swab. A normal child has oxygen saturation between 95-100%. If oxygen saturation is less than 90% in a child with cough or difficult breathing, this is sign of severe pneumonia and child will need oxygen supplementation. **Reading should be taken when child is not moving and there is proper wave formation on the display.**





CLASSIFY COUGH OR DIFFICULT BREATHING

Given below is the classification table for cough or difficult breathing.

Signs	Classify as	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print)
• General danger signs (inability to breastfeed or drink, lethargy or unconsciousness, persistent vomiting) or • Chest indrawing or • Oxygen saturation < 90%	**SEVERE PNEUMONIA OR VERY SEVERE DISEASE**	• ***Give pre-referral dose of oral amoxycillin and IM gentamicin*** • *Refer URGENTLY to hospital.*[#]
• Fast breathing **- 2-11 months : ≥ 50/min** **-12-59 months : ≥ 40/min**	**PNEUMONIA**	• ***Give amoxycillin for 5 days.*** • *Advise home care for cough and cold.* • *Follow-up after 2 days.*
• No signs of severe pneumonia or pneumonia	**NO PNEUMONIA: COUGH or COLD**	• *Advise home care for cough and cold.* • *If coughing for more than 14 days, refer for assessment.* • *Follow up after 5 days, if not improving*

[#]*If referral is not possible, see the section where referral is not possible.*

Remember:

- A child with any danger sign or chest indrawing has SEVERE PNEUMONIA OR VERY SEVERE DISEASE (pink classification) and needs urgent referral to hospital.
- A child who has no general danger signs and no chest indrawing but has fast breathing has PNEUMONIA (yellow classification). This child should be treated with medicine at home.
- A child who has no general danger signs, no chest indrawing and no fast breathing has NO PNEUMONIA: COUGH OR COLD (green classification). The mother of this child should be advised on how to give home care.

3.4.3 ASSESS AND CLASSIFY DIARRHOEA

Ask the mother if her child has diarrhoea. If the mother says the child has diarrhoea:

Ask for how long the child has had diarrhoea. If the diarrhoea is of 14 days or more duration, the child has persistent diarrhoea. This child should be referred to hospital.

Ask if there is blood in the stools. The child who is passing blood in the stools has dysentery. Children with dysentery should be referred to a hospital

DOES THE CHILD HAVE DIARRHOEA?

IF YES, ASK	LOOK AND FEEL:
• For how long? • Is there blood in the stool?	**Look at the child's general condition.** Is the child: -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)?

Assess every child with diarrhea for dehydration. Look for the following:

LOOK and FEEL for the following signs:

LOOK at the child's general condition. Is the child lethargic or unconscious? restless and irritable?

LOOK for sunken eyes.

OFFER the child fluid to drink. Is the child not able to drink or drinking poorly? drinking eagerly, thirsty?

Ask the mother to offer the child some water in a cup or spoon. Watch the child drink.

A child is not able to drink if he is not able to suck or swallow when offered a drink. A child may not be able to drink because he is lethargic or unconscious.

A child is drinking poorly if the child is weak and cannot drink without help. He may be able to swallow only if fluid is put in his mouth.

A child has the sign drinking eagerly, thirsty if it is clear that the child wants to drink. Look to see if the child reaches out for the cup or spoon when you offer him water. When the water is taken away, see if the child is unhappy because he wants to drink more.

If the child takes a drink only with encouragement and does not want to drink more, he does not have the sign "drinking eagerly, thirsty."

PINCH the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?



Drinks eagerly

If the child takes a drink only with encouragement and does not want to drink more, he does not have the sign "drinking eagerly, thirsty."

PINCH the skin of the abdomen. Does it go back: Very slowly (longer than 2 seconds)? Slowly?

CLASSIFY DIARRHOEA FOR DEHYDRATION

Given below is the classification table for diarrhoea

Signs	Classify as	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print)
Two of the following signs: • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly.	**SEVERE DEHYDRATION**	• ***Refer URGENTLY to hospital**** with mother giving frequent sips of ORS on the way. • Advise the mother to continue breastfeeding.
Two of the following signs: • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly.	**SOME DEHYDRATION**	• Give fluid, zinc supplements and food for some dehydration (Plan B). • Follow-up after 2 days if not improving. • Advice when to return immediately
• Not enough signs to classify as some or severe dehydration.	**NO DEHYDRATION**	• Give fluid, zinc supplements and food to treat diarrhoea at home (Plan A). • Follow-up after 5 days if not improving. • Advice when to return immediately

**If referral is not possible, see the section where referral is not possible.*

Remember:

- **Classify all cases of diarrhoea for dehydration.**
- *Children with signs of some and severe dehydration should be referred to hospital.*
- *Children with blood in stool should also be referred to hospital to rule out surgical or medical causes.*
- *Children with diarrhoea which is persisting for 14 days or more should also be referred to hospital.*
- **Children who are not dehydrated and have no blood in stool should be managed at home.**

3.4.4 ASSESS AND CLASSIFY FEVER

Fever is a common problem among young children. A child with fever may have malaria or another disease such as simple cough or cold or other viral infection.

DOES THE CHILD HAVE FEVER? (By history or feels hot or temperature 37.5°C/99.5°F* or above)	
IF YES: Is it a PF (p. falciparum) predominant area? Yes/ No ***THEN ASK:*** • Fever for how long? • If more than 7 days, has fever been present every day?	***LOOK AND FEEL:*** • Look or feel for stiff neck • Look for any other focus of fever

** This cut-off is for axillary temperature.*

ASK: Does the child have fever?

Ask the mother if the child has fever. To check temperature, wash your hands before recording a baby's temperature. And keep the baby warm throughout the procedure.

Using digital thermometer: Switch on the thermometer, till beep is heard. Keep the digital thermometer in the axilla (armpit) and then hold the baby's arm against his body till beep is heard. Remove the thermometer and note the reading. If you are using mercury thermometer, keep it for 5 minutes.

If you do not have a thermometer, place the back of your hand in the armpit or on the tummy of the child to decide if the child feels hot to touch.

Fever is present if the mother is sure that her child has had fever or if you have determined that the child feels hot to touch.

ASK: For how long? If more than 7 days, has fever been present every day?

Ask the mother how long the child has had fever. If the fever has been present every day for more than 7 days, refer this child for further assessment.

LOOK or FEEL for stiff neck.

A child with fever and stiff neck may have meningitis. A child with meningitis needs urgent treatment with injectable antibiotics and referral to a hospital.

While you talk with the mother during the assessment, look to see if the child moves and bends his neck easily as he looks around. If the child is moving and bending his neck, he does not have a stiff neck.

If you did not see any movement, or if you are not sure, draw the child's attention to his umbilicus or toes.For example, you can shine a flashlight on his toes or umbilicus or tickle his toes to encourage the child to look down. Look to see if the child can bend his neck when he looks down at his umbilicus or toes.

Before classifying fever, check for other focus of fever (e.g. cough, diarrhoea, skin infection etc.). The National Anti-Malaria Program in some areas has provided health workers rapid diagnostic kits and anti-malarials (including ACT) for early diagnosis and treatment of Falciparum cases.

Therefore, before treating a child with fever, you will determine whether the child has malaria by doing an RDT. The fever box (below) on the recording form reminds you to do the RDT before you treat the child for malaria

Classify Fever

Given below is the classification table for fever

Signs	Classify as	IDENTIFY TREATMENT • (Urgent pre-referral treatments are in bold print.)
• Any general danger sign or • Stiff neck	**VERY SEVERE FEBRILE DISEASE**	• ***Give first dose of oral amoxycillin and IM gentamicin*** • ***Treat the child to prevent low blood sugar*** • *Give one dose of paracetamol for high fever (temp. 38.5°C/101.3°F or above).* • ***Refer URGENTLY to hospital#*** .
• Positive RDT or • RDT not available and no other obvious cause of fever	**MALARIA/ SUSPECTED MALARIA**	• ***Give oral antimalarial as per national guidelines after making a smear*** • *Give one dose of paracetamol in clinic for high fever (temp. 38.5°C/101.3°F* or above).* • *Advise mother when to return immediately.* • *Follow-up after 2 days*
• Negative RDT and/or other causes of fever PRESENT**	**FEVER- MALARIA UNLIKELY**	• *Give one dose of paracetamol in clinic for high fever (temp. 38.5°C/101.3°F or above)* • *Give appropriate treatment for an identified cause of fever* • Advise mother when to return immediately. • *Follow-up after 2 days if fever persists* • *If fever is present every day for more than 7 days, refer for assessment*

*# If referral is not possible, see the section **Where referral is not possible** in the **treat the child***

***This cut-off is for axillary temperature**

**** Other causes of fever include no pneumonia: cough or cold, pneumonia, diarrhoea, dysentery, skin infections, dengue and measles**

Remember:

- *Remember to classify a child with fever who has a general danger sign as VERY SEVERE FEBRILE DISEASE*
- *Do not assess for fever if the child does not have fever*
- *If fever has been present every day for 7 days or more, refer to hospita*

3.4.5 CHECK FOR MALNUTRITION

Check **ALL** sick children for signs suggesting malnutrition.

THEN CHECK FOR MALNUTRITION
LOOK AND FEEL
• Measure weight, length/height, plot WFL/H on MCP card and determine WFL/H SD score (color)*
• Look for oedema of both feet.

** Look for visible severe wasting if unable to measure length/height. Classify severe acute malnutrition in presence of visible severe wasting.*

WEIGHT MEASUREMENT:

- Weight is vital anthropometric measurement and should be recorded for all children during all health contacts.
- Infants and children should be weighed at least once every month during first 5 years of life.



Weight Measurement through Salter Scale

Measurement of weight by digital weighing machine

- Remove the child's clothes to minimal clothes, but keep the child warm by covering him 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 pan.
- Wait for the child to settle and the weight to stabilize



Weight measurement through digital weighing scale

- Measure weight to the nearest 0.01 kg (10 g) or as precisely as possible & record immediately.
- Wrap the child immediately to re-warm

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:

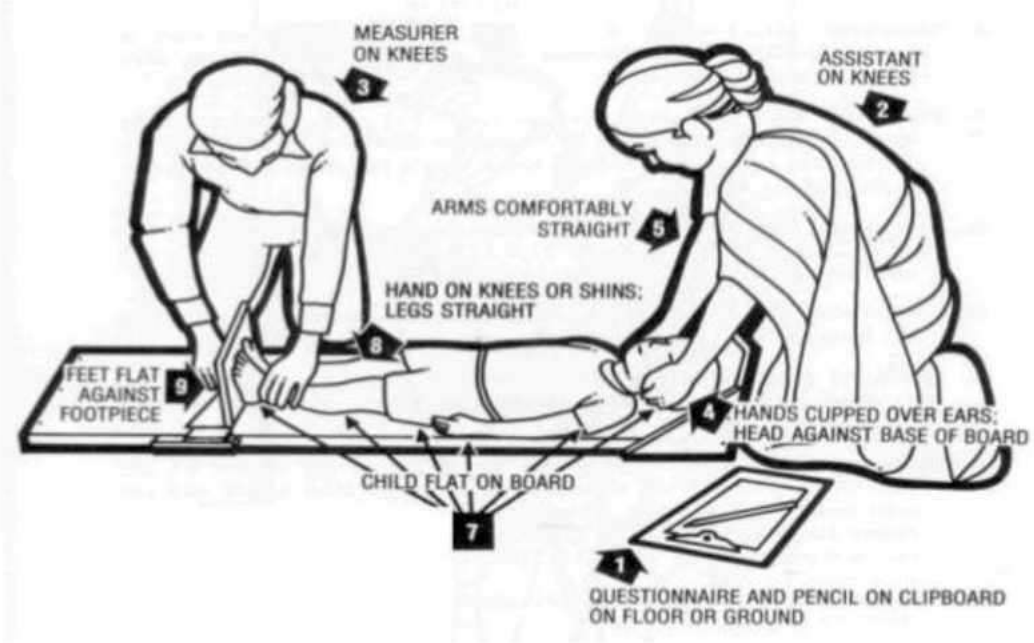
- If a child is less than 2 years old (less than 87 cm), measure recumbent length.
- If the child is aged 2 years (more than 87cm) or older and able to stand, measure standing height

If a child less than 2 years old will not lie down for measurement of length, measure standing height and add 0.7 cm to convert it to length. If a child aged 2 years or older cannot stand, measure recumbent length and subtract 0.7 cm to convert it to height.

Measure the length (if child is less than 2 years of age or less than 87cm)

Infantometer

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



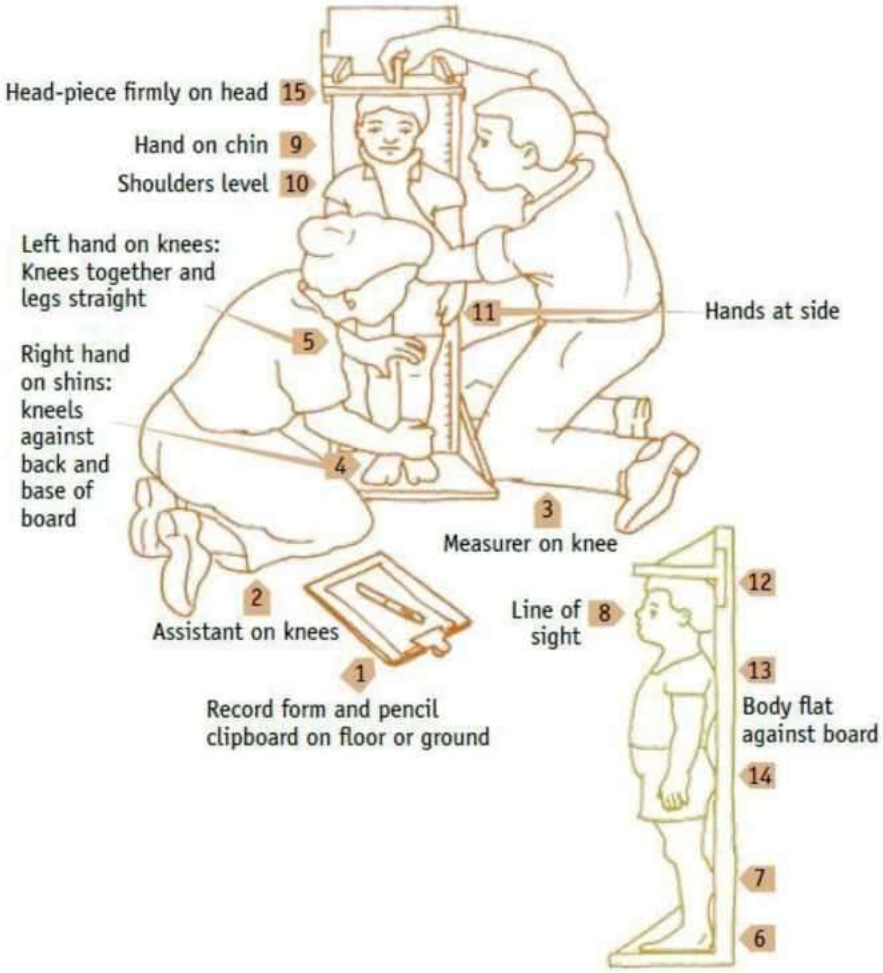
Length Measurement

- Place the Infantometer on a hard, flat, level surface, such as the ground, floor or a solid table.
- One health worker 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 ANM/AWW should stand alongside the measuring board and with the help of mother/ caretaker, 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 child straightens the toes.
- Read the measurement aloud to the nearest 0.1 cm and record it immediately on MCP card or on recording form.
- Child should be lifted off the board.

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



Height Measurement

- Place stadiometer on a hard, flat level surface against a wall. Make sure it is stable.
- Ask the mother/caretaker to bring the child on the stadiometer and to kneel in front of the child so that the child will look forward at the mother.
- Make sure the child's arms hang down at his/her sides and the shoulders are level.
- Mother or a HW should kneel or crouch near the child's feet and help the child stand with 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 ANM/AWW should bend to 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 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 MCP card & recording form.
- Help child to get off the board.

ASSESSMENT OF BILATERAL PITTING OEDEMA

What is Bilateral Pitting Oedema?

Imbalance in energy and protein intake in children with SAM causes low protein in the body and physiological changes lead to accumulation of excessive fluid in the tissues or oedema. These children are at high risk of mortality and need to be treated urgently.

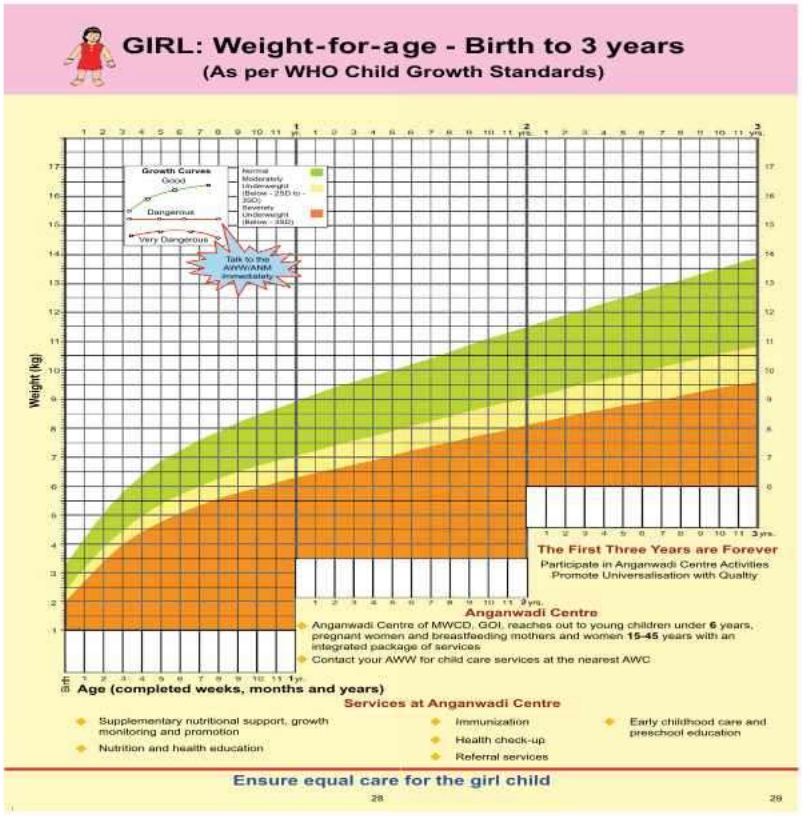
- In order to determine the presence of oedema, apply normal thumb pressure on both feet for three seconds (count the numbers 1001, 1002, 1003 in order to estimate three seconds without using a watch).
- The child has oedema if a pit (dent) remains in the feet when you lift your thumb, it can be seen and felt. (Please see figure below)

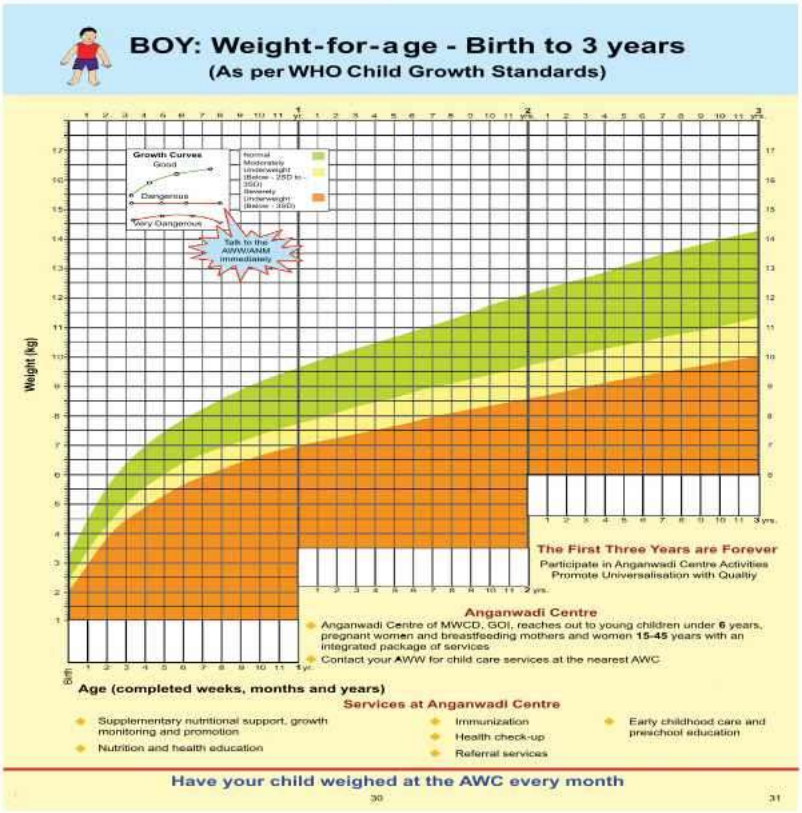




Assessment of oedema

Determining Weight-for-Height/Length SD score & Nutritional status





⇨ Low weight in child may happen due to wasting (malnutrition of shorter duration) or stunting (malnutrition of long duration) or both together. Plotting parameters on weight for length chart helps us to differentiate wasted and stunted children.

⇨ The horizontal line at the bottom of the Chart is the X Axis. This is for recording the length/ height of the child for five years. The vertical line at the far left of the Chart

is the Y Axis. This is for recording the weight of the child from birth onwards and is called 'weight axis'.

⇨ On each Growth Chart, there are 3 pre-printed Growth Curves. These are called Reference Lines or Z Score Lines and are used to compare and interpret the growth pattern of the child and assess her/ his nutritional status. The 1st/ top curve line on the growth chart is the median which generally speaking is the average. The other two curve lines are below the average and are at a distance.

⇨ Weight of all normal and healthy children according to their length/height, plotted on the Growth Chart, falls above 2nd curve (dark green band); weight of children with moderate acute malnutrition fall between 2nd curve to 3rd curve (yellow band); and weight of children with severe acute malnutrition fall below the 3rd curve (orange band). A plotted point or a growth curve of a child, which is much above or far below from the 1st pre-printed curve indicates a growth problem.

LOOK FOR VISIBLE SEVERE WASTING

A child with visible severe wasting is very thin, has less or no fat, and looks like skin and bones. Some children are thin but do not have visible severe wasting. This assessment step helps you identify children with visible severe wasting who need urgent treatment and referral to a hospital particularly in situations where length or MUAC measurement is not possible.

To look for visible severe wasting, remove the child's clothes. Look for severe wasting of the muscles of the shoulders, arms, buttocks and legs. Look at the child from the side to see if the fat of the buttocks is missing. When wasting is extreme, there are many folds of skin on the buttocks and thigh.

3.4.6 CLASSIFY MALNUTRITION

Here is the classification table for malnutrition

Signs	Classify as	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print)
(red color on MCP card)* and/or • MUAC <11.5 cm and/or • Oedema of both feet	**SEVERE ACUTE MALNUTRITION**	• ***Give first dose of oral amoxycillin and IM gentamicin*** • ***Treat the child to prevent low blood sugar.*** • ***Refer URGENTLY to hospital**** • ***Keep the child warm on the way to hospital.***
• WFL <-2 SD score (yellow • MUAC 11.5–12.4 cm and • No Oedema of both feet	**MODERATE ACUTE MALNUTRITION**	• *Assess feeding and counsel the mother on how to feed the child* • *Advise mother when to return immediately* • *Follow-up after 30 days*
• MUAC ≥ 12.5 cm and • No Oedema of both feet	**NO ACUTE MALNUTRITION**	• *If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the FOOD box on the COUNSEL THE MOTHER chart.* • *If feeding problem, follow-up in 5 days.* • *Advise mother when to return immediately.*

Look for visible severe wasting if unable to measure length/height.
Classify severe acute malnutrition in presence of visible severe wasting.
****If referral is not possible, See the section where Referral is not possible***

Remember:

- *A child with severe acute malnutrition has a serious problem and should be urgently referred to hospital*
- *Children with moderate acute malnutrition should be assessed and counselled for feeding*
- *All children less than 2 years of age should also be assessed and counselled for feeding*

3.4.7 CHECK FOR ANEMIA

Check all sick children for signs suggestive of anemia.

THEN CHECK FOR ANEMIA
LOOK AND FEEL: • Look for palmar pallor. Is it: - Severe palmar pallor? - Some palmar pallor?

LOOK for Palmar Pallor

Pallor is unusual paleness of the skin. It is a sign of anemia.

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 white, the child has severe palmar pallor.

3.4.8 CLASSIFY ANEMIA

Here is the classification table for anemia:

Signs	Classify as	IDENTIFY TREATMENT (Urgent pre-referral treatments are in bold print.)
Severe palmar pallor	SEVERE ANEMIA	• ***Refer URGENTLY to hospital.***
Some palmar pallor	ANEMIA	• Give iron folic acid therapy for 14 days. • Assess the child's feeding and counsel the mother on feeding. If feeding problem, follow-up after 5 days. • Follow-up after 14 days.
No palmar pallor	NO ANEMIA	• Give prophylactic iron folic acid if child is 6 months or older

Remember:

A child with severe anemia should be referred to hospital

CHECK THE CHILD'S IMMUNIZATION*, PROPHYLACTIC VITAMIN A, IRON-FOLIC ACID SUPPLEMENTATION

CHECK THE CHILD'S IMMUNIZATION STATUS

	AGE	VACCINE
IMMUNIZATION SCHEDULE:	At Birth	BCG + OPV-0 + Hep B-Birth Dose
	6 weeks	OPV-1 + Penta-1 + Rota Virus-1* + fIPV–1 + PCV–1
	10 weeks	OPV-2+ Penta-2+ Rota Virus –2*
	14 weeks	OPV-3+ Penta-3 +fIPV-2 + RVV-3* + PCV-2
	9-12 months	Measles-rubella (MR1) + JE-1#+ PCV booster + fIPV-3
	16-24 months	MR-2, JE-2#, DPT booster-1, OPV booster

The immunization status of all children, who are seen by you, should be checked.

*A child who needs to be immunized should be advised to go for immunization , the day vaccines are available at AWC/ PHC #JE in states where it is included in their immunization schedule

PROPHYLACTIC IRON-FOLIC ACID SUPPLEMENTATION

Prophylactic supplementation of iron folic acid twice every week is recommended under the ANEMIA MUKT BHARAT PROGRAMME for all children above 6 months of age. You will be the main vehicle for supply and promotion of IFA to all children and will be given a regular supply of IFA syrup for easy administration to children.

The recommended schedule for iron and folic acid supplementation is as follows:

PROPHYLACTIC IFA/ DEWORMING/ PROPHYLACTIC VITAMIN A

- Give IFAsyrup (1ml; 2 times a week with auto dispenser) containing 20 mg of elemental iron + 100 mcg of folic acid after the child has recovered from acute illness if the child is 6 months of age or older. Supplement IFAin LBW after 6 weeks of age
- Give anthelminthic if child is one year or older and has not received deworming agents in last 6 months (1-2 years; 1/2 tablet albendazole and for 2 years above; 1 tablet)
- Give Vitamin A supplementation as per state guidelines

Method of giving IFA

- The cap/dispenser/dropper provided with the IFA syrup should be filled up to the mark of 1 ml and the content given to the child twice a week.
- Fix the days for giving the IFA dose so that mother can remember the days. e.g. Monday and Thursday of each week.
- A child should be given 1 ml of IFA one hour after food. Do NOT give IFA with milk since milk hinders the absorption of Iron in the body.
- Ensure that mother measures the dose correctly. The child must be held in the mother's lap. Encourage the child to open the mouth. If the child does not open the mouth, you may need to press the cheeks gently together for the mouth to open. Mother must pour the dose entirely into the child's mouth and watch the child swallow the entire dose.
- Child should not be given IFA on an empty stomach.
- Convey to the mother that child may get black stools after IFA and this is normal.
- If a child has high fever, omit the dose on that day and continue subsequent doses
- Keep the IFA bottle out of reach of children in a clean and safe place.

DEWORMING

If the child is more than 1 year and has not received de-worming (in last 6 months), give tablet Albendazole. The tablet should be broken and crushed, then safe water/breast milk can be added to help administer the Albendazole tablet

Drug	Doses by age		
	Below 1 year	1-2 year	2 years onwards
Albendazole (400 mg tablet)	Not to be given (safety not established)	Half tablet	One tablet

3.4.9 ASSESS OTHER PROBLEMS

The last box on the ASSESS side of the jobaid reminds you to assess any other problems that the child may have.

Since the ASSESS & CLASSIFY section does not address all the problems of a sick child, you will now assess other problems the mother told you about. Identify and treat any other problems according to your training and experience. Refer the child for any other problem you cannot manage.

3.4.10 ASSESS THE MOTHER/CAREGIVER'S DEVELOPMENT SUPPORTIVE PRACTICES

Ask following questions about the mother/caregiver's usual practices to support child's development. Compare the mother's answers to the recommendations for the child's development on MCP card.





ASK -

Infant age less than 6 months

- How do you play with your baby?
- How do you talk to your baby?
- How do you get your baby to smile?

Child age 6 months and older

- How do you play with your child?
- How do you talk to your child?
- How do you think your child is learning?

LOOK- All children

- How does caregiver show he or she is aware of child's movements?
- How does caregiver comfort the child and show love?

3.4.11 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 visit 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 child is still breastfed, help the mother to breastfeed her baby.
- 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.

3.5 IDENTIFY TREATMENT AND TREAT THE CHILD

"Identify Treatment" is on the same lines as for a young infant.

If the child has any general danger sign or a pink classification, REFER THE CHILD after giving appropriate treatments

3.5.1 GIVE AN APPROPRIATE ANTIBIOTIC

- Give pre-referral dose of oral amoxycillin and IM gentamicin to children presenting with general danger signs, severe pneumonia, severe febrile disease and SAM with medical complications
- Give oral amoxycillin to children (FOR PNEUMONIA, SEVERE ACUTE MALNUTRITION)

AGE or WEIGHT	Amount of Gentamicin to be given IM as injection (vial contains 80 mg in 2 ml)	Amount of amoxicillin to be given per-orally as Syrup (contains 125 mg/5 ml)	Amount of amoxycillin to be given per-orally as tablet (contains 250 mg)
2 months upto 4 months (4 - <6 kg)	0.5-1.0 ml	5 ml	
4 months upto 12 months (6- <10 kg)	1.1-1.8 ml	10 ml	1
12 months upto 3 years (10 - <14 kg)	1.9-2.7 ml	15 ml	1 ½
3 years upto 5 years (14-19 kg)	- - - -	20 ml	2

IF REFERRAL IS NOT POSSIBLE

- Referral is the best option for children classification with General danger signs, severe pneumonia, very severe febrile disease, severe dehydration, severe acute malnutrition and severe anemia.
- If referral is not possible or refused in children with general danger signs, severe pneumonia, very severe febrile disease, severe acute malnutrition then give oral amoxycillin (25-30 mg/kg) every 12 hrs and intramuscular gentamicin once daily.
- At each contact for injection of antibiotics, explain again to the caregiver that the infant is very sick and should urgently be referred for hospital care. Continue giving once-daily intramuscular gentamicin and twice-daily oral amoxycillin until referral is feasible or for 7 days
- For severe dehydration, rehydrate with ORS till the time referral is possible
- For severe anemia, explain need for blood transfusion at each visit till referral is possible
- Give Zinc: For acute diarrhoea and severe acute malnutrition, give zinc supplements for 14 days.
  - Give 10 mg (1/2 tab of 20 mg tablet) to infants aged 2-<6 months.
  - Give 20 mg (1 tab of 20 mg tablet)to children 6-59 months

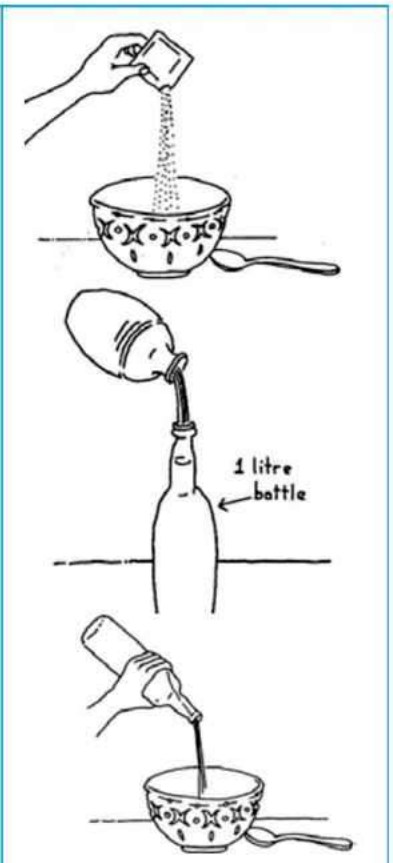
3.5.2 TREAT DIARRHOEA WITH DEHYDRATION WITH ORAL REHYDRATION SALT (ORS) SOLUTION (PLAN B)

The child with diarrhoea of less than 14 days duration who has signs of some dehydration should be treated under your supervision with ORS for 4 hours. For this, keep the mother and child under observation, either at the health centre or at the home of the child.

Teach the mother how to prepare ORS.

1. Wash your hands with soap and water.
2. Pour the entire contents of 1 packet of ORS into a clean container (a mixing bowl or jar) for mixing the ORS. The container should be large enough to hold at least 1 litre.
3. Measure 1 litre of clean portable water. Use the cleanest drinking water available.

   In your community, what are
4. Pour the water into the container. Mix well until the salts completely dissolve.



Ask the mother to give one teaspoon of the solution to the child. This should be repeated every 1-2 minutes (An older child who can drink it in sips should be given one sip every 1-2 minutes). If the child vomits the ORS tell the mother to wait for 10 minutes and resume giving the ORS but this time more slowly than before.

Breastfed babies should be continued to be given breast milk in between ORS. Any ORS which is left over after 24 hours should be thrown away.

Use the table to determine the amount of ORS that should be given to the child in 4 hours.

AGE*	Up to 4 months	4 months up to 12 months	12 months up to 2 years	2 years up to 5 years
WEIGHT	< 6 kg	6 - < 10 kg	10 - < 12 kg	12 - 19 kg
In ml	200 - 400	400 - 700	700 - 900	. . .
Cups	2	3	5	7

Use the child's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the child's weight (in kg) times 75.

- If the child wants more ORS than shown, give more.

After 4 hours

- Reassess the child and classify the child for dehydration.
- Select the appropriate plan to continue treatment. When there are no signs of dehydration, the child is put on Plan A. If there is still some dehydration, Plan B should be repeated. If the child now has severe dehydration, the child should be put on Plan C at facility level.
- Begin feeding the child in clinic.
- After about 4 hours of giving ORS, reassess the child for dehydration. If the child is no longer dehydrated, tell the mother to give home available fluids the same way as she gave ORS. Details of what home available fluids to give are given in the next section. Begin feeding the child even if dehydration persists, continue ORS. If the child is still dehydrated, refer. On the way mother should continue to give ORS to the child.

IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT

- Show her how to prepare ORS solution at home.
- Show her how much ORS to give to finish 4-hour treatment at home.
- Give her enough ORS packets to complete rehydration. Also give her 2 packets as recommended in Plan A.

Explain the 4 Rules of Home Treatment:

- Give extra fluid
- Give zinc supplement
- Continue feeding
- When to return

The signs that she must look for are:

- Child becomes sicker;
- Not able to drink or breast feed or drinking poorly;
- Blood in stool;
- Develops a fever.

Your Facilitator will conduct a drill followed by Demonstration of 'Preparation of ORS solution'

3.5.3 TREAT HIGH FEVER WITH PARACETAMOL

Fever whatever the cause should be treated with paracetamol. If the axillary temperature is 38.5oC/101.3°F or above, give paracetamol. The dose of paracetamol is given in the table below. Paracetamol may be repeated every 6 hours if fever is high or ear pain gone.

Give 3 additional doses of paracetamol for use at home every 6 hours until high fever or ear pain is gone.

If fever persists for seven days or more refer the child to a hospital.

PARACETAMOL		
AGE or WEIGHT	**TABLET** (100 mg)	**TABLET** (500 mg)
2 months upto 1 year (4 - <10 kg)	1	1/4
1 year upto 3 years (10 - <15kg)	1 1/2	1/4
3 years upto 5 years (15-20 kg)	2	1/2

3.5.4 TREAT ANEMIA WITH IRON FOLIC ACID

Treat some pallor with iron. The dose of iron is given in the table. Do not give iron with tea since this reduces the absorption of the medicine and makes it less effective. Also advise mother to feed the child according to the age specific feeding recommendations. These are described later.

Give Vitamin A

Give single dose to all children with Severe Malnutrition or for prophylaxis as per guidelines

AGE	**VITAMIN A SYRUP**
	100,000 IU/ml
Upto 6 months	0.5 ml
6 months upto 12 months or weight < 8 kg	1 ml
More than 12 months or weight ≥ 8 kg	2 ml

Give Iron & Folic Acid therapy: *Give one dose daily for 60 days*

AGE or WEIGHT	**IFA PEDIATRIC TABLET** (20 mg elemental iron)	**IFA SYRUP** (20 elemental iron + 100 mcg Folic acid per ml)	**IFA DROPS** 20 mg of elemental iron per 1 ml
2 months upto 4 months (4 - <6 kg)		0.5 ml	0.5 ml
4 months upto 12 months (6 - <10kg)	1 tablet	1ml	1 ml
12 months upto 3 years (10 - 14 kg)	1.5 tablets	1.5 ml	1.5 ml
3 years upto 5 years (14 -19 kg)	2 tablets	2 ml	

Give Iron for 14 days initially and ask mother to return for follow up at that time. If the child is doing well give iron therapy again till the child has consumed iron for 60 days. Inform mother that the stools of the child will become black. This is not a cause of worry.

3.5.5 GIVE ANTIMALARIALS AS PER NATIONAL GUIDELINES

Once a suspected case is diagnosed malaria positive by RDT or microscopy, treatment is started. The first dose is always taken in the presence of the health volunteer/worker. The blister pack with remaining tablets is given to the patient/caretaker to take home with clear instructions.

Caution: If the patient is a child under 5 years, ask the patient to wait for 15 minutes

after taking the first dose. If it is vomited within this period, let the patient rest for 15 minutes, and then give the first dose again i.e. open a new blister-pack and discard what remains of the old. If the patient vomits the first dose again, it is considered a case of severe malaria, refer the patient immediate to the nearest Block PHC/ CHC/ Hospital.

Explain to the patient/caretaker:

- That if the treatment is not completed as prescribed, the disease may manifest again with more serious features and become more difficult to treat.
- To come back immediately, if there is no improvement after 24 hours, if the situation gets worse or the fever comes back.
- That regular use of a mosquito net (preferably insecticide treated net) is the best way to prevent malaria.

Give Oral Antimalarials as per National guidelines (other than NE-States)

FALCIPARUM MALARIA: If RDT or blood smear Pf positive

Age group (years) / color of blister pack	Day 1		Day 2		Day 3
	Artesunate (AS)	Sulphadoxine Pyramethamine (SP)	Artesunate (AS)	Primaquine (PQ)	Artesunate (AS)
0-1* Pink Blister	1 (25 mg)	1 (250+12.5 mg)	1 (25 mg)	Nil	1 (25 mg)
1-4 Yellow Blister	1 (50 mg)	1 (500+25 mg)	1 (50 mg)	1 (7.5 mg base)	1 (50 mg)

*NOTE: ACT-SP (Artesunate based combination therapy-Sulfadoxine Pyremethamine) Artesunate 4 mg per kg daily for 3 days and Sulfadoxine (25 mg/kg)-Pyremethamine 1.25 mg per kg on first day. Give Primaquine 0.75 mg per kg on day-2. SP is not to be prescribed for infants <5 months of age and should be treated with alternate Artesunate Combination Therapy (ACT)

- Vivax malaria: If blood smear positive for PV, give Chloroquine for 3 days and Primaquine for 14 days
- Chloroquine for P. Vivax: 25 mg/kg divided over 3 days i.e. 10mg/kg on day 1 and 2 and 5 mg/ kg on day 3
- Primaquine: 0.25 mg/kg daily for 14 days

Age group	Chloroquine						Primaquine
	Day 1		Day 2		Day 3		Give daily for 14
	Tablet (150 mg)	Syrup 50 mg base per ml	Tablet	Syrup	Tablet	Syrup	Tablet (2.5 mg)
2 months upto 12 months	1/2	7.5 ml	1/2	7.5 ml	1/4	4 ml	0
12 months upto 5 years	1	15 ml	1	15 ml	1/2	7.5 ml	1

Give Oral Antimalarials as per National guidelines (for NE- States)

FALCIPARUM MALARIA: If blood smear positive for PF, give ACT-AL (ARTEMETHER AND LUMEFANTRINE) Co-formulated tablet

Age group (weight)	Co-formulated ACT-AL				
	Dose	Times	No of days	Total dose	Availability under National programme
> 5 months to < 3 years (5-14 kg)	1 tab (20 mg)	Twice/day	3	120 mg	Yellow colored pack with 6 tablets
≥ 3 months to < 8 years (15-24 kg)	2 tab (40 mg)	Twice/day	3	240 mg	Green colored pack with 12 tablets

NOTE: If blood smear or RDT positive for both P. Vivax + P. falciparum, give ACT-AL as above and Primaquine

3.5.6 TEACH THE MOTHER TO TREAT LOCAL INFECTIONS AT HOME

Treat the Child to Prevent Low Blood Sugar:

If the child is able to breastfeed:

Ask the mother to breastfeed the child

If the child is not able to breastfeed but is able to swallow: Give 20-50 ml (10 ml/kg) of expressed breastmilk or locally appropriate animal milk (with added sugar) before departure. If neither of these is available, give 20-50 ml (10 ml/kg) of sugar water.

If the child is not able to swallow: Give 20-50 ml (10 ml/kg) of expressed breastmilk or locally appropriate animal milk (with added sugar) or sugar water by nasogastric tube.

Advise Home Care for Cough or Cold

Children having no signs of either pneumonia or severe pneumonia are classified as 'NO

PNEUMONIA: COUGH OR COLD' and health worker will advise on home care.

1. An infant below 6 months who is exclusively breastfed should not be given any home remedy.
2. Breastfeeding should be continued. The other advise is to continue feeding the child during the illness.
3. Mother is advised to give home available fluids as much as the child would take. This would help in the relief of cough.
4. Mother is advised to give the child a safe home-made cough remedy if the child is more than 6 months of age like honey, tulsi, ginger, herbal concoctions and other safe home remedies. Avoid cough syrups.
5. The mother is advised to keep the nose clean by putting in nasal drops (boiled and cooled water with salt mixed in it) and by cleaning the nose with a soft cotton cloth. Mothers can also prepare saline nasal drops at the home by adding 1/2 teaspoon of common salt (2.5 gm) to 250 ml (1 glass) of clean drinking water. Fresh solutions should be prepared daily.

6. The mother should also be advised on how to give drugs at home.
7. She should look for signs of worsening of illness, like child becomes sicker or is not able to drink or breastfeed, fast breathing, difficult breathing or if child develops fever. If any of these signs appear, mother should immediately contact ASHA or ANM for referral to the nearest health facility.

Your Facilitator will conduct a Group Discussion on 'Home Made Safe Cough Remedies'

Home Care for Child with feve

For the child with fever who does not have severe disease advice the mother to, treat with home care:

1. Advise the mother to continue feeding the child during the illness. Continue breastfeeding.
2. Advise the mother to continue giving home available fluids as much as the child would take. The sick child who has fever needs more fluids.
3. Teach the mother to look for signs of illness when to return to you immediately.
   - Child becomes sicker;
   - Not able to drink or breast feed.

Home care for the child with diarrhoea and no dehydration (Plan A)

Home care for treatment of diarrhoea and no dehydration includes the following:

1. THE CHILD SHOULD BE GIVEN EXTRA FLUIDS TO DRINK (AS MUCH AS THE CHILD WILL TAKE).

Tell the mother:

If the child is exclusively breastfed: Breastfeed frequently and for longer duration at each feed. If passing frequent watery stools, give ORS in addition to breastmilk.

- If the child is 6 months or older: Give one or more of the following home fluids; ORS solution,buttermilk drink, milk, lemon drink, rice or pulses-based drink, vegetable soup, green coconut water or plain clean water.

Advise the mother to give fluids available at home. Some examples of useful and harmful fluids available at home fluids are given in the table below:

Useful	Harmful
1. Breast Milk	Soft drinks
2. Yoghurt drink	Fruit juices (sweetened)
3. Lemon drink	Coffee
4. Rice Water	
5. 'Dal' (lentil)	
6. Vegetable soup	
7. Plain clean water	
8. Coconut water	

How much extra fluid to give after each loose stool

Age		
Up to 2 months	**2 months upto 2 years**	**2 years or more**
5 SPOONS	1/4 - 1/2 cup (50-100 ml)	1/2 - 1 cup (100-200 ml)
Give more if the child wants.		

It is especially important to give ORS at home when:

- the child has been treated with Plan B or Plan C during this visit.
- the child cannot return to a clinic if the diarrhoea gets worse.

Teach the mother how to mix and give ORS. Give the mother 2 packets of ORS to use at home.

Fluid to give in addition to the usual fluid intake:

- Up to 2 years: 50 to 100 ml after each loose stool
- 2 years or more: 100 to 200 ml after each loose stool

Tell the mother to:

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

2. GIVE ZINC SUPPLEMENT FOR 14 DAYS

Zinc supplement

Zinc is an important part of the treatment of diarrhoea. Zinc helps to lessen the amount of fluid loss during diarrhoea so that the diarrhoea is less severe. Zinc shortens the number of days of diarrhoea. It increases the child's appetite and makes the child stronger. Zinc also helps prevent diarrhoea in the future. Giving zinc for the full 14 days can help prevent diarrhoea for up to the next three months.For these reasons, we now give zinc to children with diarrhoea. The diarrhoea treatment box tells how much zinc to give—the dose. It also tells how many tablets (tabs) the child should take in 14 days. You will give the caregiver the total number of tablets for the 14 days, and help her as she gives the first dose now.

Before you give a child a zinc supplement, check the expiration date on the package. Do not use a zinc supplement that has expired.

For acute diarrhea and severe acute malnutrition give zinc supplements for 14 days.

- Give 10 mg (1/2 tab of 20 mg tablet) to infants aged 2-<6 months
- Give 20 mg (1 tab of 20 mg tablet) to infants and children aged 6-59 months

Help the caregiver give the first dose now

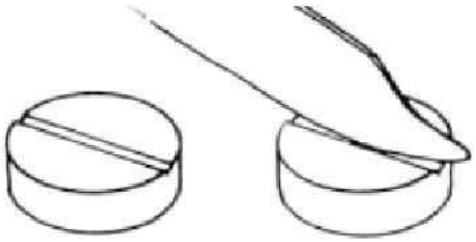
If the dose is half of a tablet (For infants below 6 months), help the caregiver cut it into two parts.

Ask the caregiver to put the tablet or half tablet into a spoon with breast milk or water. The tablet will dissolve. The caregiver does not need to crush the tablet before giving it to the child.

Now, help the caregiver give her child the first dose of zinc. The child might spit out the zinc solution. If so, then use the spoon to gather the zinc solution and gently feed it to the child again. If this is not possible and the child has not swallowed the solution, give the child another dose.

Give the caregiver enough zinc for 14 days. Explain how much zinc to give, once a day. Emphasize that it is important to give the zinc for the full 14 days, even if the diarrhoea stops. This will help her child have less diarrhoea in the months to come. The child will have a better appetite and will become stronger.

Then, advise the caregiver to keep all medicines out of reach of children. She should also store the medicines in a clean, dry place, free of mice and insects.



If the dose is half of a tablet (For infants below 6 months), help the caregiver cut it into two parts.

Ask the caregiver to put the tablet or half tablet into a spoon with breast milk or water. The tablet will dissolve. The caregiver does not need to crush the tablet before giving it to the child.

Now, help the caregiver give her child the first dose of zinc. The child might spit out the zinc solution. If so, then use the spoon to gather the zinc solution and gently feed it to the child again. If this is not possible and the child has not swallowed the solution, give the child another dose.

Give the caregiver enough zinc for 14 days. Explain how much zinc to give, once a day. Emphasize that it is important to give the zinc for the full 14 days, even if the diarrhoea stops. This will help her child have less diarrhoea in the months to come. The child will have a better appetite and will become stronger.

Then, advise the caregiver to keep all medicines out of reach of children. She should also store the medicines in a clean, dry place, free of mice and insects.

3. CONTINUE FEEDING

The child should continue to be fed as much as the child would take. If the child is reluctant to eat, then feed more often than before (smaller amounts of food). As soon as the child recovers, child's appetite would return and the mother should feed extra foods to make up for the excessive losses during the disease or illness.

4. ADVISE THE MOTHER WHEN TO RETURN

Advise 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 NO PNEUMONIA: COUGH OR COLD, also return if:	• Fast breathing • Difficult breathing
If child has Diarrhoea, also return if:	• Blood in stool • Drinking poorly

PROMOTE THE HEALTH OF THE CHILD

1. Update Immunizations
2. Give vitamin A
3. Give Prophylactic IFA
4. For a child older than 6 months, give IFA Paediatric Syrup for 100 days during the year. Give iron therapy for 14 days at a time and call the mother again after 14 days to repeat the supply.
5. Counsel for child's feeding and development support care

The assessment of the child's feeding & development supportive care is necessary if the child is very low weight for age or has anemia or if the child is less than 2 years age.

The brain develops most rapidly before birth and during the first two years of life. Good nutrition and good health are especially important during this time. Breast milk plays a special role in the development of the brain. Breast milk also helps young children stay free from illness so that they are strong and can explore and learn.

Children can see and hear at birth. Starting when they are very young, children need opportunities to use their eyes and ears, in addition to good nutrition. For their brains to develop, children also need to move, to have things to touch and explore, and to play with others. Children also need love and affection. All these experiences help the brain to develop.

3.5.7 ASSESS THE CHILD'S FEEDING

Ask the following questions about the child's usual feeding and feeding during this illness. Compare the mother's answers to the ***Feeding Recommendations*** for the child's age in the box below.

ASK

- **Do you breast feed the child?**
  - ➢ How many times during the day?
  - ➢ Do you breastfeed during the night?
- **Does the child take any other foods or fluids?**
  - ➢ What foods or fluids?
  - ➢ How many times per day?
  - ➢ What do you use to feed the child?
  - ➢ How large are the 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?**

Compare feeding practices with feeding recommendations and counsel.

FEEDING RECOMMENDATIONS DURING SICKNESS AND HEALTH

Age: Birth upto 6 months

- Give exclusive breast feeding. This means that the infant should not be given anything else by mouth; not even water.
- Remember that no extra water is required for an exclusively breastfed baby even if the weather outside is very hot.
- There is always enough water in breastmilk to protect the baby from getting dehydrated.
- Breastfeed the baby as often as the baby wants. The baby should be breastfed even at night.
- Most babies need to be fed at least 8 times during a day. Do not give water, food or other fluids for any reason unless advised specially by a medical doctor.

Birth upto 6 months

- Immediately after birth, put your baby in skin to skin contact with you.
- Breastfeed as often as the infant wants, day and night, at least 8 times in 24 hours.
- Do not give any other foods or fluids not even water
- If baby is small (low birth weight), feed at least every 2 to 3 hours. Wake the baby for feeding after 3 hours, if the baby does not wake-up by him/herself.

Remember:

- Continue breastfeeding if the baby is sick

Age: 6 months upto 9 months

The child should continue to be breastfed during this age. Breastfeed as often as the child wants.

The first foods given to the baby in addition to breastmilk are called complementary foods.

- Child should also take 2-3 meals a day.
- Always give breastmilk first before giving other foods.
- Start giving 2–3 teaspoons of soft porridge or mashed food, and begin to introduce vegetables and fruit twice daily.
- Gradually increase the amount to ½ cup (250ml) and frequency of feeds.
- Give a variety of locally available food.
- A child who is not breast fed may be given animal milk undiluted by a cup.
- Never use a feeding bottle.

6 months upto 9 months

- Breastfeed as often as the child wants.
- Start by giving 2 to 3 tablespoons of food. Gradually increase to 1/2 cups (1 cup = 250 ml).
- Mashed roti/ rice mixed in undiluted milk OR thick dal with added ghee/oil or khichri with added oil/ghee. Add cooked vegetables also in the servings, or
- Sevian/dalia/halwa/kheer prepared in milk or any cereal porridge cooked in milk, or
- Mashed boiled/fried potatoes.
- *Give 2 to 3 meals each day.
- Offer 1 or 2 snacks each day between meals when the child seems hungry.

Remember:

- Keep the child in your lap and feed with your own hands
- Wash your own and child's hands with soap and water every time before feeding.

**A good daily diet should be adequate in quantity and include an energy-rich food (for example, thick cereal porridge with added oil); meat, fish, eggs, or pulses; and fruits and vegetables*

Age: 9 months upto 12 months

- The child should continue to be breast fed during this age.
- Breast feed as often as the child wants.
- Child should also take 3-4 meals a day. Always give breastmilk first before giving other foods. Start giving at least ½ cup (250ml) of soft porridge or mashed food, and begin to introduce snacks.
- Give a variety of locally available food.
- Remember to keep the child in your lap and feed with your own hands and wash yours own and child's hands with soap and water every time before feeding.

Age: 9 months upto 12 months

- Breastfeed as often as the child wants.
- Give at least ½ katori serving* at a time of:
  - Mashed roti/ rice mixed in undiluted milk, OR
  - Mashed roti/rice mixed in thick dal with added ghee/oil or khichri with added oil/ghee add cooked vegetables also in the servings OR
  - Sevian/dalia/halwa/kheer prepared in milk, or any cereal porridge cooked in milk, OR
  - Mashed boiled/fried potatoes

  *3 times per day if breastfed; 5 times per day if not breastfed.

Remember:

- Keep the child in your lap and feed with your own hands
- Wash your own and child's hands with soap and water every time before feeding

**A good daily diet should be adequate in quantity and include an energy-rich food (for example, thick cereal porridge with added oil); meat, fish, eggs, or pulses; and fruits and vegetables*

Age: 12 months upto 2 years

- Breastfeeding should be continued. Continue breastfeeding as often as the child wants.
- Increase the amount to ¾ cup per feed. The variety in the diet should be increased by including the family foods in the diet of the child. Family foods should be chopped so that they are easy for the child to take. They must not be spicy.
- If possible at least once in the day the child should be given a food that is made especially for the child.

Age: 12 months upto 2 years

- Breastfeed as often as the child wants.
- Offer food from the family pot
- Give at least 3/4 cup servings 5 times a day. The following food options can be considered:

- Mashed roti/rice mixed in thick dal with added ghee/oil or khichri with added oil/ghee. Add cooked vegetables also in the servings OR
- Mashed roti/ rice mixed in undiluted milk, OR
- Sevian/dalia/halwa/kheer prepared in milk, or any cereal porridge cooked in milk, OR
- Mashed boiled/fried potatoes
- Offer banana/cheeko/ mango/ papaya
- *5 times per day

Remember:

- Sit by the side of child and help him to finish the serving
- Wash your child's hands with soap and water every time before feeding

* *A good daily diet should be adequate in quantity and include an energy-rich food (for example, thick cereal porridge with added oil); meat, fish, eggs, or pulses; and fruits and vegetables. Egg is a good snack where culturally acceptable.*

Age: 2 years and older

- The family foods should be given to the child 3 to 4 times in the day.
- The focus should be on adding variety and food rich in calories and vitamin contents such as animal source foods.
- Child should be given at least 1 full cup at each meal.
- Two extra feedings should be given to the child. These can be family foods or other foods that are especially cooked for the child or some snacks.

Age: 2 years and older

- Give a variety of family foods to your child, including animal source and vitamin A-rich fruits and vegetables.
- Give at least one cup (250ml) serving at a time.
- Give family foods at 3-4 meals each day.
- Also, twice daily, give nutritious food between meals, such as: banana/ cheeko/ mango/ papaya as snacks.
- If child refuses a new food, offer "tastes" several times. Be patient.

Remember:

- Ensure that the child finishes the serving
- Teach your child to wash his hands with soap and water every time before eating

IDENTIFY FEEDING PROBLEMS

The differences between what is recommended for age and what the child is fed are the feeding problems.

You should identify all the feeding problems before advising on feeding. Common feeding problems that are observed include the following:

- Difficulty in breast feeding
- Giving sugar water or tea before 6 months age
- Breast milk is not considered to be enough
- Feeding bottle is used for giving milk
- Lack of active feeding (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.)
- The child does not feed well during the illness

There may be other feeding problems that you may identify. These are summarized on the job-aid. If there are other feeding problems not listed, consult supervisor for finding solutions.

Give feeding advice according to age

Ask the mother to describe how the child is being fed. This can be done by asking the questions that are listed on the job-aid.

Determine the feeding problems that you have identified on the basis of mother's description and matching it with feeding recommendations.

Give only the feeding advice that is needed for the child's age and situation. To avoid confusion, advise not more than 2 changes in feeding. Try to select two most important ones which may have direct bearing on the child's health.

To make the changes in the child's diet that you have suggested, discuss and negotiate with the mother if she feels she can try these at home. In case she has problems, support her in solving these problems.

COUNSEL THE MOTHER ABOUT FEEDING PROBLEMS

If the child is not being fed as described in the above recommendations, counsel the mother accordingly. In addition:

- If the mother reports difficulty with breastfeeding, assess breastfeeding. (See YOUNG INFANT chart.)

As needed, show the mother correct positioning and attachment for breastfeeding.

If the infant is less than 6 months old and is taking other milk or foods:

- Build mother's confidence that she can produce all the breastmilk that the child needs.
- Suggest giving more frequent, longer breastfeeds day or night, and gradually reducing other milk or foods.

If other milk needs to be continued, counsel the mother to:

- Breastfeed as much as possible, including at night.
- Make sure that other milk is a locally appropriate dairy/animal milk .
- Make sure other milk is correctly and hygienically prepared and given in adequate amounts.
- Finish prepared milk within an hour.

If the mother is using a bottle to feed the child:

- Recommend substituting a cup for bottle.
- Show the mother how to feed the child with a cup.

If the child is not being fed actively, counsel the mother to:

- Sit with the child and encourage eating.
- Give the child an adequate serving in a separate plate or bowl.

If the child is not feeding well during illness, counsel the mother to:

- Breastfeed more frequently and for longer if possible.
  - ➢ Use soft, varied, appetizing, favourite foods to encourage the child to eat as much as possible, and offer frequent small feedings.
  - ➢ Clear a blocked nose if it interferes with feeding.

COUNSEL THE MOTHER ON HOW TO FEED THE CHILD WITH MODERATE ACUTE MALNUTRITION

- Tell mother about child's nutritional status
- Tell them to avail nutritional services for malnourished children in that area through anganwadi centers.
- Tell mothers, young children have a small stomach size, which can accommodate limited quantity at a time, so each meal must be made energy dense and should be given at least 5-6 times daily.
- Meals may be made energy dense by preparing porridge in milk; adding butter/ghee/which makes food item tasty and also helps in absorption of vitamins.
- Foods can also be enriched by adding flours of sprouted and roasted grains.
- Encourage them to use milk and milk products like curd, paneer which are good source of protein, calcium and also provide energy.
- Encourage mothers to give animal origin food items like egg, fish etc. wherever culturally acceptable which are also good source of protein.
- Easily available uncooked seasonal fruits and vegetables are useful source of vitamins and minerals. They should be given daily as snacks in between meals.

Your Facilitator will conduct a group discussion on 'Complementary foods available locally for different age groups'

3.5.8 ASSESS THE MOTHER/CAREGIVER'S PRACTICE'S TO SUPPORT CHILD'S DEVELOPMENT

The care that children receive has powerful effects on their survival, growth, and development. The key risk factors for development include issues like stunting, iron deficiency, iodine deficiency, frequent illness and difficulty in learning new skills, understanding the world around them, solving problems and communicating with others. Care for child care development begins with improving the skills of health workers and others who work with families.

Next, there are tools for health workers to use while counselling families on play and communication activities with their child. One such tool is the child feeding with **play** and **communication** steps in chart booklet. This section includes recommended activities for children and caregivers for specific age groups.

Ask the following questions:

ASK

Child age less than 6 months

- How do you play with your baby?
- How do you talk to your baby?
- How do you get your baby to smile?

Child age 6 months and older

- How do you think your child is learning?

LOOK: ALL CHILDREN

- How does caregiver show he or she is aware of child's movement?
- How does caregiver comfort the child and show love?

This section describes an important piece of child development, the bonding and attachment between a caregiver and child. We will begin by defining these concepts.

There are two important concepts to understand about strong interactions between a caregiver and a child. These concepts are sensitivity and responsiveness.

CONCEPT OF SENSITIVITY AND RESPONSIVENESS

WHAT IS 'BONDING'?

Bonding is the process of a mother forming a relationship with her new infant. It begins during the first few hours after birth. The connection is mother-to-child.

WHAT IMPACTS BONDING?

It is important to remember that bonding occurs early in the child's life, and can have a lasting impact on his or her development. Bonding is a process that happens very quickly after birth. Therefore, some actions might affect the bonding between a mother and child. For example:

- Mother is separated from infant for a long period after birth, like many days.
- Mother has poor health.

- Mother is depressed after delivery, which happens to many women. This depression often goes
  undetected and many mothers do not seek help.
- The mother or someone else is abusing or neglecting the child.
- The infant is a low weight baby and therefore need even more attention and care.
- The infant is ill.

WHAT IS 'ATTACHMENT'?

Attaching is primarily a process of the infant forming a relationship with his or her mother or the primary caregiver, and reinforced by the responses. It occurs during the first two years of life, but especially between **2 and 7 months of age**. During attachment, the child develops a **personal communication system** with the primary caregiver. The connection is **child-to-caregiver**.

WHAT ARE THE CONSEQUENCES OF POOR ATTACHMENT?

Poor attachment between a child and the caregiver can have very serious impact on development. Some of the known complications of poor attachment include:

- Child might have difficulty trusting others in their life.
- Child can experience increasing depression or rage.
- Child fails to thrive as a child that is physically and emotionally healthy, curious about the world around him/her, active, and happy.
- Child can have difficulty adapting to change. As child grows older, he or she will have more
  behavioral problems and worse peer relations compared to their peers.
- Older children may also have poor problem-solving abilities, and low self-esteem.SENSITIVITY

Is the ability of the caregiver to be **aware of the infant**. This includes the infant's acts and vocalizations that communicate the infant's needs and wants. If the caregiver is sensitive, this means the caregiver:

- Is aware of the infant's signals, and interprets them accurately
- Accepts the child's interests
- Regards the child as an individual, separate person
- Sees things from the child's point of view

RESPONSIVENESS

Is the ability of the caregiver to respond appropriately to the infant's signals. The response is triggered
by the child's signal. It happens quickly after the signal, and is the appropriate level of response.

A caregiver must be **sensitive** in order to be **responsive**. That means that the caregiver must be aware of the infant's signals in order to appropriately respond to them. A caregiver would for example be able to see the child's signs of discomfort, recognize that the child is hungry, and feed the child.

Your Facilitator will conduct an exercise

Are the following actions examples of a caregiver's sensitivity or responsiveness? Tick your answer.

A mother, Deepti, takes the following actions with her son Rajat	S	R
1. Deepti hears Rajat crying		
2. Deepti picks up Rajat to soothe his crying		
3. Deepti is giving Rajat a bath and notices a rash on his leg		
4. Deepti sees Rajat watching the tree's branches blowing in the wind		
5. Deepti asks Rajat, "Do you see the wind blowing? The leaves are blowing!"		
6. Deepti notices that Rajat is not feeding as much as usual		
7. Deepti offers Rajat a food he likes to see if he will eat		

3.5.9 PLAY AND COMMUNICATE

For Infant, upto 6 months

From birth, babies can see and hear.

The mother's face is the favourite thing the young baby wants to look at. The baby sees her mother's face and loves to respond to her smiles and sounds.

A mother should begin to talk to her child from birth-and even before birth.

Play: Infants at this age like to reach for and grab fingers and other objects. They look at their hands and feet, as if they are just discovering them. They put things into their mouths because their mouths are sensitive. The mouth helps them learn warm and cool, and soft and hard, by taste and touch.



Help the baby follow an object. For example, ask the caregiver to show a colourful cup to the baby, just out of reach. When she is sure the baby sees the cup, ask her to move it slowly from one side to the other and up and down, in front of the baby. Then, to move the cup closer.

Encourage the baby to reach for the cup and grab the handle.

Clean, safe, and colourful things from the household, such as a wooden spoon or plastic bowl, can be given to the baby to reach for and touch. A simple, homemade toy, like a shaker rattle, can attract the child's interest by the sounds it makes. Babies at this age also continue to love to see people and faces. Encourage family members to hold and carry the baby.

Communicate: Babies enjoy making new sounds, like squeals and laughs. They respond to someone's voice with more sounds, and they copy sounds they hear. They start to learn about how to make a conversation with another person before they can say words.

All family members can smile, laugh, and talk to the baby. They can "coo" and copy the baby's sounds. Copying the baby's sounds and movements helps the persons who care for the baby pay close attention to the baby. They learn to understand what the baby is communicating, and respond to the interests and needs of the baby.



These are important caregiving skills—being sensitive to the baby's signs and responding appropriately to them. These caregiving skills help family members notice when the baby is hungry, or sick, or unhappy, or at risk of getting hurt. They are better able to respond to the child's needs.

For the baby, this practice in communicating helps the baby prepare for talking later. The family will also enjoy the reactions they get from the baby and the attempts at communicating.

For the child, from 6 months upto 9 months

Play: Children enjoy making noises by hitting or banging with a cup and other objects. They may pass things from hand to hand and to other family members, dropping them to see where they fall, what sounds they make, or if someone will pick them up.

This may be frustrating for busy mothers and fathers. Caregivers can be more patient if you help them understand that their child is learning through this play. "Your child is being a little scientist. She is experimenting with how objects fall, how to make a noise, how the force of her arm sends the object across the table."

Communicate: Even before children say words, they learn from what family members say to them, and can understand a lot. They notice when people express strong anger, and may be upset by it. Children copy the sounds and actions of older brothers and sisters and adults. Children like other persons to respond to the sounds they are making and to show an interest in the new things they notice. A child can recognize his name before he can say it. Hearing his name helps him know that he is a special person in the family. When he hears his name, he will look to see who is saying it. He will reach out to the person who kindly calls his name.

For the child, from 9 months upto 12 months

Play: Play continues to be a time for the child to explore and learn about himself, the people around him, and the world. As a child discovers his toes, he may find them as interesting to touch as a toy. When a box disappears under a cloth, where

does it go? Is it still there? Can he find it?



A child also enjoys playing peek-a-boo. When his father disappears behind a tree, he laughs as father reappears. He enjoys hiding under a cloth and giggles when his father "finds" him.

Communicate: Even though the child cannot yet speak, she shows that she understands what her family members say. She hears the name of things, and delights in knowing what they are. She begins to connect the word bird to the bird in the tree, and the word nose to her nose.

All members of the family can enjoy sharing new things with the young child. They can play simple
hand games together, like "bye-bye", and clap to the beat of music.

A child may become afraid when he loses sight of a familiar caregiver. The adult helps him feel safe, responds when he cries or is hungry, and calms him by her presence and the sound of her voice. Encourage the caregiver to tell her child when she is leaving and to reassure her child that she will soon return. She can leave a safe, comfortable object with the child—one that reminds the child of the caregiver and assures the child that she will return.

For the child, 12 months upto 2 years

Play: If children of this age are healthy and well nourished, they become more active. They move around and want to explore. They enjoy playing with simple things from the household or from nature, and do not need store-bought toys. They like to put things into cans and boxes, and then take them out. Children like to stack things up until they fall down. Families can use safe household items to play with their children.

Children need encouragement as they try to walk, play new games, and learn new skills.

Families can encourage their children to learn by watching what they do and naming it: "You are filling the boxes." Adults should play with the children and offer help: "Let's do it together. Here are more stones to put into your box."

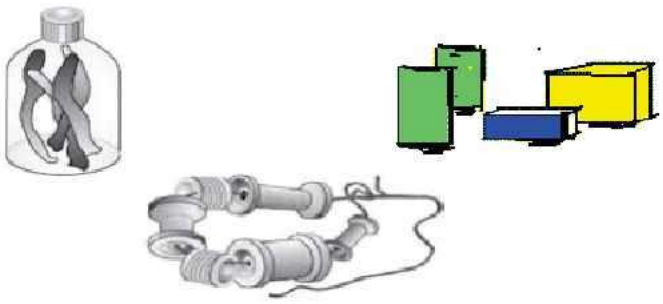
When children learn a new game or skill, they repeat it over and over again. These discoveries make them happy and more confident. They are especially happy when they see that they are making the adults around them happy, too. Encourage family members to notice and praise their young children for what they are learning to do.

Communicate: At this age, children learn to understand words and begin to speak. Mothers and fathers should use every opportunity to make conversations with the child, when feeding and bathing the child, and when working near the child.

Children are beginning to understand what others are saying and can follow simple directions. They often can say some words, such as "water" or "ball." Family members should try to understand the child's words and check to see whether they understand what the child says: "Would you like some water?" "Do you want to play with the ball?"

Families can play simple word games, and ask simple questions: "Where is your toe?", or "Where is the bird?" Together they can look at pictures and talk about what they see.

Adults should use kind words to soothe a hurt child and praise the child's efforts.



A child enjoys playing with homemade toys, and will learn by grabbing, shaking, banging, and stacking them.

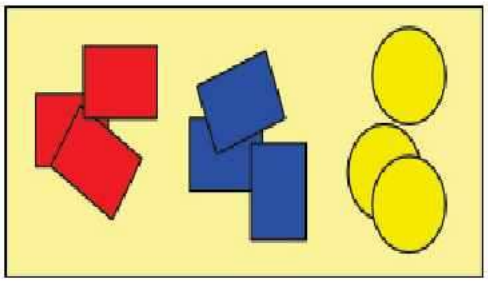
Children can learn to match colours, shapes, and sizes with simple objects, such as bottle caps. They can compare and sort circles and other shapes cut from coloured paper.

For the child, 2 years and older

***Play**:* Children 2 years and older learn to name things and to count.

A caregiver can help her child to learn to count by asking "how many" and counting things together.Children make mistakes at first, but learn from repeating the games many times.

Children still enjoy playing with simple, homemade toys. They do not need store-bought toys. They can learn to draw with chalk on a stone or with a stick in the sand. Picture puzzles can be made by cutting magazine pictures or simple drawings into large pieces.



***Communicate**:* By age 2 years, children can listen and understand. Asking simple questions and listening to the answers encourages children to talk: "What is this?" "Where is your brother?" "Which ball is bigger?" "Would you like the red cup?"

Looking at picture books and reading stories to children prepares them for reading. Stories, songs, and games also help children improve how they speak.

Answering a child's questions encourages the child to explore the world. Family members should try—with patience—to answer a young child's many questions.

Children who are learning to talk make many mistakes. Correcting them, however, will discourage talking. They will learn to speak correctly by copying—by listening to others who speak correctly.

Children this age can understand what is right and wrong. Traditional stories, songs, and games help teach children how to behave. Children also copy their older brothers and sisters and other family members as they learn what is right and wrong.

Children learn better if they see and are told what is correct first. They should be corrected gently so that they do not feel ashamed.

Group Discussion: WHAT ARE GOOD TOYS TO MAKE AT HOME?

Advise the caregiver to strengthen the skills of the persons who care for young children.

When you counsel a family you have an opportunity to strengthen the skills of the persons who care for young children.The assessment identifies some common problems and what you can suggest to help families in caring for their children. You will guide the caregiver and child in practising the play and communication activities with you. For example:

To help a caregiver respond to the child

You might find that a caregiver does not move easily with her child and does not know how to comfort her child. You do not see the close connection between what the child does and how the caregiver responds.

This connection is the basis for sensitive and responsive caregiving. Where it is missing, you can help the caregiver learn to look closely at what a young child is doing and to respond directly to it.

Ask the caregiver to:

1. Look into the child's face until their eyes meet.
2. Notice the child's every movement and sound.
3. Copy the child's movements and sounds.

Soon, most young children also begin to copy the caregiver.

One time is not enough. Encourage the caregiver and child to play this communication game every day. Help the caregiver see how the child enjoys it. Notice how satisfied the caregiver is with the attention the child gives her.

It is important that you do not do the activities directly with the child. Connecting with you, the counsellor, will interfere with the child making the connection with her caregiver. Instead, teach or coach the caregiver through the activity with her child.

To help a caregiver speak less harshly to a child

Sometimes, children annoy adults as they try new skills. For example, a father might think his child is misbehaving when he drops things again and again. He scolds his child and perhaps spanks him.

You can help the father see what the child might be thinking in a more positive way: "See what I can do. I can make it fall, and it makes a noise. The harder I push, the farther it goes. I am strong. When I drop it near Daddy, I am asking him to play with me, and we laugh and have fun together. He loves me very much."



To introduce a new play or communication

activity

In general, introduce a play or communication activity on the counselling card by following these steps:

Get the child's attention

Before you start, help the caregiver get the child's attention. She can look into the child's eyes, smile, and make sounds until the child begins to respond to her. She can also move a container or other object in front of the child until the child reaches for it.

Respond to the child

Help the caregiver follow the child's lead. She can copy the child's sounds, or respond to the child's hand or leg movements. Often the child will then repeat the activity, in order to get the caregiver to respond again. This increases the child's attempts to make sounds and move, and the caregiver's pleasure. Both are important to help the child learn.

Introduce a play or communication activity recommended on the counselling card. When the caregiver and child are responding together, it is now easier to introduce a new activity.

For example, give stones (large enough not to swallow) and a plastic jar to a caregiver who takes care of her 14-month-old grandson. Ask her to try to teach her grandchild to put the stones into the jar. Help him to get started, if necessary. Point out any success, and help her find ways to show her grandchild that she is pleased.



Also, help her see how much her grandchild seems to enjoy playing with her. Often children want to repeat this activity many times, once they have learned it.

Note again that it is important that, as the counsellor, you do not do this activity directly with the

child. Instead help—or coach—the caregiver to do the activity with the child.

Then, state the recommendations on play or communication for the child.

Recommend that the caregiver continue this activity at home to help her child learn: "Give your child things to put into containers and take out, and to stack up. This will help your child learn new skills. This will help him grow and be ready for school."If the child is almost at the end of an age group—or the child already knows how to do the activities

for her age group, you may introduce the recommendations for the next, older age group.

Check understanding

Before the caregiver and child leave, be sure you have seen them do the recommended play or communication activities. This will show you that the caregiver is able to do the activity. Encourage the caregiver to continue the activities at home.

Also, ask the caregiver questions about how he will do the activity at home. For example, "What do

you have at home to use to teach your boy how to stack things?"

"What would you like your child to learn to name?" "When is a good time to read to your child?"

Finally, explain to the caregiver the importance of stimulating the child's development. One of the following reasons might be important to the child's family:

- Play and communication, as well as good feeding, will help your child grow healthy and learn. These activities are especially important in the first years of life.
- Play and communication activities help the brain to grow and make your child smart and happy.
- Good care for the child's development will help your child be ready to go to school and to contribute one day to the family and community.
- Playing and communicating with your child will help build a strong relationship with your child for life.

SELF-ASSESSMENT EXERCISE

Age of the child	Play?	Communication?
17 days		
2 months		
7 months		
10 months		
17 months		

3.5.10 FOLLOW UP CARE

To decide whether antibiotic is working in the treatment of pneumonia or iron is helping in correcting the anemia or the feeding advice is being followed, the mother should be asked to come back after specified period of time.

If the child has:	Return for follow-up after:
PNEUMONIA MALARIA/SUSPECTED MALARIA FEVER-MALARIA UNLIKELY (if fever persists),	2 days
DIARRHOEA, if not improving PERSISTENT DIARRHOEA FEEDING PROBLEM ANY OTHER ILLNESS , if not improving	5 days
UNCOMPLICATED SEVERE ACUTE MALNUTRITION	7 days
ANEMIA	14 days
MODERATE ACUTE MALNUTRITION	30 days

Consult the immunization schedule to advise the mother about when she should return for next immunization.

Do not confuse the mother with too many instructions about return visit. Advise her about the next visit only.

Follow-up Care

- **Pneumonia**

After 2 days of treatment review with the mother if she has given the treatment as advised. Then assess the child by checking for general danger signs, chest indrawing and count the breathing rate for one minute.

Assessment findings	Treatment
• If chest indrawing **or** general danger signs	• ***Refer urgently to hospital***
• If fast breathing persists and the child has been given the medicines as advised	• Refer to a doctor
• If breathing is slower and the child is feeding better	• Continue the antibiotic for 3 days

- Diarrhoea

A child with diarrhoea having some or no dehydration should be seen after 2 days. Assess the child's diarrhoea and review the feeding.

Assessment Findings	Treatment
• If very slow skin pinch or drinks poorly or general danger sign	• ***Refer urgently to hospital***
• If child has some dehydration (slow skin pinch and drinks eagerly)	• Treat with ORS • Reassess after 4 hours
• If child has no dehydration (skin pinch normal and drinks normally)	• Continue home available fluids. Review feeding and solve problems

- Malaria/Malaria Unlikely

After 2 days of treatment review fever:

Assessment Findings	Treatment
• Child with a general danger sign or stiff neck	• ***Refer urgently to hospital***
• If the child has any obvious cause of fever other than malaria	• Provide treatment or Refer
• If malaria is the only apparent cause of fever	• Continue antimalarial/start antimalarial if not given and see again in 2 days till fever settles
• If fever has been present for 7 days	• Refer for assessment

- **Moderate Acute Malnutrition**

After 30 days:

- Assess the child using the same measurement (weight, length/height, MUAC) used on the initial visit:
- Check the child for oedema of both feet.
- Reassess feeding. See questions in the COUNSEL THE MOTHER section. Treatment:
- If the child is no longer classified as MODERATE ACUTE MALNUTRITION, praise the mother and encourage her to continue.
- If the child is still classified as MODERATE ACUTE MALNUTRITION, counsel the mother about any feeding problem found. Ask the mother to return again in one month. Continue to see the child monthly until the child is feeding well and gaining weight regularly or his weight for height >=-2SD/ MUAC is 12.5 cm or more.

Exception: If you do not think that feeding will improve, or if the child has lost weight

or his or her MUAC has diminished, refer the child.

- **Anemia**

Review whether the child is getting the iron as advised. Is the child feeling better? Is the child eating better?

- Give iron supplement for another 14 days and continue for a total of 60 days. Advise to return after 14 days.
- Assess pallor/haemoglobin estimation.
- Refer if the child has not improved after 2 months of treatment with Iron.
- Feeding problems

When a child returns for follow-up after 2 days reassess feeding. Use "counsel the mother on feeding" section.

Review with the mother the changes that the mother has been able to bring about in the child's feeding.

• Have her attempts been successful?	• If successful, reassure the mother and ask her to continue • Advise her about one or two more foods if appropriate • Ask her to come back after 14 days • Praise her if the child has started to eat more
• If the mother has not been able to follow the advice	• Find out the reasons and try to correct them • Ask her to come back after 14 days

Ask the mother to come back after **2 weeks** to assess whether the child has improved. However, if after 1 month of monitoring there is no improvement, you should refer the child to a doctor.

3.6 RECORDING FORMS

MANAGEMENT OF THE SICK YOUNG INFANT AGE UPTO 2 MONTHS FOR HW

Name:_____ **Age:**_____ **Gender:** _____ **Weight:**_____ **kg** **Temperature:**_____**°C / °F** **Date:** _____

ASK: What are the infant's problems?_____ **Initial visit?**_____ **Follow up visit?**_____

ASSESS (Circle all signs present)		**CLASSIFY**
CHECK FOR POSSIBLE SERIOUS BACTERIAL INFECTION/JAUNDICE • Is the infant having difficulty in feeding? • Has the infant had convulsions? • Ask when did jaundice appeared – First 24 hours / After 24 hours	• Count the breaths in one minute_____ breaths per minute Repeat if elevated _____Fast breathing? • Look for severe chest indrawing • Measure axillary temperature (if not possible, feel for fever or low body temperature) - Is it < 35.5°C / 37.5 °C (95.9°F/ 99.5°F) or above? • Look at young infant's movements. If infant is sleeping, ask the mother to wake him/her ⇨ Does the infant move only when stimulated but then stops? ⇨ Does the infant not move at all? • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules • Look for jaundice (yellow skin), If present • Look at the young infant's palms and soles. Are they yellow?	
DOES THE YOUNG INFANT HAS DIARRHOEA? **Yes___ No___**	• Look at the young infant's general condition. ➢ Look at infant's movements: ⇨ Does the infant move only when stimulated and then stops? ⇨ Does the infant not move at all? • Is the infant restless and irritable? • Look for sunken eyes. • Pinch the skin of the abdomen. Does it go back: ⇨ Slowly? ⇨ Very slowly (longer than 2 seconds)?	
THEN CHECK FOR FEEDING PROBLEM & VERY LOW WEIGHT • Has the infant breastfed in the previous hour? 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 infant?_____ **Is there any indications for urgent Referral-Yes/No?** **If no ASSESS BREASTFEEDING**	**Yes _____ No _____** • Measure Weight ⇨ Is it less than 1800 gm? ⇨ Is it 1800 – 2500 gm? • Determine weight for age by plotting weight on MCP card ⇨ Red (<- 3 SD) ⇨ Yellow (<- 2 SD) ⇨ Green (≥ -2SD) • Look for ulcers or white patches in the mouth (thrush)	
ASSESS BREASTFEEDING: • Has the infant breastfed in the previous hour? • If infant has not breastfed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfed for 4 minutes.	• Check for attachment ⇨ 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_____ • Is the infant able to attach? ⇨ no attachment at all ⇨ not well attached ⇨ good attachment • Is the infant suckling effectively (that is, slow deep sucks, sometimes pausing)? ⇨ not suckling at all ⇨ not suckling effectively ⇨ suckling effectively • Does the mother have pain while breastfeeding? If yes, then look for: ⇨ Flat or inverted nipples or sore nipples	
CHECK THE YOUNG INFANT'S IMMUNIZATION STATUS Circle immunization needed today **Birth** BCG OPV 0 HEP-B 0 **6 weeks** Penta-1 OPV-1 Rotavirus-1 fIPV-1 PCV-1		Circle immunization needed today Return for next immunization on: _____(Date)
ASSESS CAREGIVER'S PRACTICES TO SUPPORT CHILD'S DEVELOPMENT ASK: How do you play with your baby? How do you talk to your baby? How do you get your baby smile?	• Look how does caregiver show he/she is aware of child's movement? • Look how does caregiver comfort the child and show love?	
ASSESS OTHER PROBLEMS		

	TREAT
• **Advise Mother to Give Home Care to the Young Infant** ➢ Immediately after birth, 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. ➢ Breastfed 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. ➢ Advise mother to wash hands with soap and water after defecation and after cleaning bottom of the baby ➢ Do not apply anything on the cord and keep the umbilical cord dry.	
• **Advise the mother to return immediately if the young infant has any of these danger signs:** ➢ Not able to drink or breastfeed ➢ Becomes sicker ➢ Develops a fever or feels cold to touch ➢ Fast breathing ➢ Difficult breathing ➢ Yellow palms and soles (if infant has jaundice) ➢ Blood in stool	**Counsel mother about feeding** **Counsel mother about development supportive practices** **Advise mother when to return immediately.** **Give any immunization needed today _____** **Counsel the mother about her own health** **Return to follow up in:**

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UPTO 5 YEARS FOR HW

Name:_____ **Age:**_____ **Gender:** _____ **Weight:**_____ **kg** **Temperature:**_____**°C / °F** **Date:**_____

ASK: What are the infant's problems?_____ **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 • VOMITS EVERYTHING • CONVULSIONS/ CONVULSING NOW	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? _____ Days • Count the breaths in one minute_____ breaths per minute. Fast breathing? • Look for chest indrawing • Check oxygen saturation- <90%/≥90%	
DOES THE CHILD HAVE DIARRHOEA? **Yes___ No___** • For how long?_____Days? • Is there blood in stools? Yes/ No • Look at the child's general condition. Is the child: ⇨ 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)?	
DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37.5 °C or above) **Yes___ No___** Is it a PF (P. falciparum predominant area) **Yes/ No** • Fever for how long? _____ Days? • If more than 7 days, has fever been present every day? • Look or feel for stiff neck • Look for any other focus of fever	
THEN CHECK FOR MALNUTRITION Weight_____(kg) Length/Height_____ (cm) • If child is 6 months or older, measure MUAC _____cm • Determine WFH/L SD score by plotting on MCP card: ⇨ Red (<-3SD) ⇨ Yellow (<-2 SD) ⇨ Green (≥-2SD) • Look for oedema of both feet • Look for visible severe wasting	
THEN CHECK FOR ANEMIA • Look for palmar pallor ⇨ Severe palmar pallor ⇨ Some palmar pallor ⇨ No pallor	
CHECK THE CHILD'S IMMUNIZATION, PROPHYLACTIC VITAMIN A & IRON-FOLIC ACID STATUS Circle immunizations and Vitamin A or IFA supplements needed today. BCG, PENTA 1, PENTA 2, PENTA 3, MR-1, MR-2 OPV 0, OPV 1, OPV 2, OPV 3, VITAMIN A+ IFA, OPV- Booster Hep B 0, Rota-1, Rota-2, Rota-3, JE-1, JE-2 PCV-1, PCV-2, PCV Booster, DPT Booster-1, DPT Booster-2 fIPV-1, fIPV-2, fIPV-3, Deworming	Return for next immunization or Vitamin A or IFA supplement or Deworming: _____ (Date)
ASSESS CHILD'S FEEDING • 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 food or fluids? Yes_____ No___ If yes, what foods of fluids? _____ • How many times per day? _____ . What do you use to feed the child and how? _____ • How large are the servings? _____ • Does the child receive his own serving? _____ Who feeds the child and how? _____ • During this illness, has the child's feeding changed? Yes____ No_____ If Yes, how?	
ASSESS CAREGIVER'S PRACTICES TO SUPPORT CHILD'S DEVELOPMENT ASK: • How do you play with your baby? • How do you talk to your baby? • How do you get your baby smile? • Look how does caregiver show he/she is aware of child's movement? • Look how does caregiver comfort the child and show love?	
ASSESS OTHER PROBLEMS:	

	TREAT
	Remember to refer any child who has a general danger sign and/or has another severe classification.
	Give any immunization. Vitamin A or IFA supplement needed today _____
	Counsel the mother about feeding
	Counsel the mother about development supportive practices
	Advise mother when to return immediately.
	Counsel the mother about her own health.
	Return to follow up in:

Reference: GOI IMNCI HEALTH WORKER Module

UNIT 4 INTRODUCTION TO RASHTRIYA BAL SWASTHYIA KARYAKARAM

Structure

4.0 Introduction

4.1 Objectives

4.2 Concept of Rashtriya Bal Swasthyia Karyakaram

4.3 Aim and Benefits of the Child Health Screening and Early Intervention Services'

4.4 Target Group under Child Health Screening and Intervention Services

4.5 Magnitude of the Problem

- 4.5.1 Birth Defects
- 4.5.2 Deficiencies
- 4.5.3 Diseases
- 4.5.4 Developmental Delays and Disabilities

4.6 Health Conditions to be Screened

4.7 Implementation Mechanisms

- 4.7.1 Newborn
- 4.7.2 Children 6 Weeks to 6 Years
- 4.7.3 Children 6 Years to 18 Years

4.8 District Early Intervention Centre

- 4.8.1 Purposes of District Early Intervention Center
- 4.8.2 District Early Intervention Center Team Composition

4.9 Training and Institutional Collaboration

4.10 Reporting and Monitoring

4.11 Let Us Sum Up

4.12 Model Answers

4.13 References

4.0 INTRODUCTION

In Unit 1 and 2 you have learnt about essential Newborn care in Unit 1 and common problem of Newborn and children in Unit 2. To improve the health of mother and children the Government of India launches various programmes and schemes from time to time to prevent and reduce maternal, newborn and childhood mortality and mobility. Rashtriya Bal Swasthyia Karyakaram (RBSK) is one of the such initiative. In this unit you will learn about the concept, aims and benefits of Rashtriya Bal Swasthyia Karyakaram (RBSK), target group under child health screening and magnitude of the problems. You will also learn about the health conditions to be screened and Implementation Mechanisms under Rashtriya Bal Swasthyia Karyakaram (RBSK). District early Intervention Centre (DEIC), Training and Institutional Collaboration and Reporting and Monitoring also covered in this unit.

4.1 OBJECTIVES

After completing this unit, you should be able to:

- explain the concept of Rashtriya Bal Swasthya Karyakaram ;
- list the benefits of the 'Child Health Screening and Early Intervention Services' ;
- enumerate the Target Group under Child Health Screening and Intervention Services ;
- discuss the magnitude of the Problem among children ;
- list the Health conditions to be screened under RBSK ;
- explain the Implementation Mechanisms of RBSK ;
- discuss the role of District Early Intervention Center in RBSK ; and
- explain the Reporting and Monitoring system under RBSK.

4.2 CONCEPT OF RASHTRIYA BAL SWASTHYIA KARYAKRAM

For ensuring healthy, dynamic future for all children and negating the impact of adversities on the development, Ministry of Health and Family Welfare, Government of India under NRHM launched Rashtriya Bal Swasthyia Karyakaram (RBSK) in 2013. Under RBSK, health screening of children, a known intervention of the School Health Programme is expanded to cover all children from birth to 18 years of age. It is estimated that about 270 million children in the age group from birth to eighteen years including the newborn babies and those attending aanganwadi centres and government schools will be benefitted by this programme in a phased manner.

4.3 AIMS AND BENEFITS OF THE 'CHILD HEALTH SCREENINGAND EARLY INTERVENTION SERVICES'

It aims to improve the quality of life with special focus on improving cognition and survival outcome for 'at risk' children. It has a systemic approach of prevention, early identification and management of 30 health conditions distributed under 4Ds: Defects

at birth, Diseases in children, Deficiency conditions and Developmental Delays including Disabilities prevalent in children from birth to 18 years.

Benefits of the 'Child Health Screening and Early Intervention Services'are as follows :

- Timely intervention halts the condition to deteriorate.
- It reduces the out-of-pocket (OOP) expenditure of the poor and the marginalised population in the country.
- It will also provide country-wide epidemiological Data on the 4 Ds (i.e., Defects at birth, Diseases, Deficiencies and Developmental Delays including Disabilities).

Such a data is expected to hold relevance for future planning of area specific service

4.4 TARGET GROUP UNDER CHILD HEALTH SCREENING AND INTERVENTION SERVICES

The target group include following :

- Children of 0-6 years of age in rural areas and urban slums
- Children enrolled in classes 1st to 12th in Government and Government aided Schools

Table 4.1: Age group estimated coverage of child

Categories	Age Group	Estimated Coverage
Babies born at public health facilities and home	Birth to 6 weeks	2 crores
Preschool children in rural areas and urban slums	6 weeks to 6 years	8 crores
Children enrolled in classes 1st to 12th in Government and Government aided schools	6 to 18 years	17 crores

Check Your Progress 1

1) What are the benefits of the 'Child Health Screening and Early Intervention Services'?

.....

.....

4.5 MAGNITUDE OF THE PROBLEM

We shall focus on magnitude of problem under birth defects, deficiencies, diseases and developmental delays and disabilities as given below.

4.5.1 Birth Defects

Out of total births, globally about 6% (7.9 million) of children are born annually with a serious birth defect of genetic or partially genetic origin. Atleast 3.3 million children under-five years of age die from birth defects every year and another 3.2 million of those who survive may be disabled for life. More than 90 per cent of all infants with serious birth defects are born in low and middle income countries. In India out of total 26 million babies born annually, about 1.7 million babies areborn with birth defects. The study conducted by National Neonatology Forum, reports that the congenital malformations are the second commonest cause (9.9%) of mortality among stillbirths and the fourth commonest cause (9.6%) of neonatal mortality and that accounted for 4 per cent of under-five mortality.

4.5.2 Deficiencies

In India, almost half of children under age 5 years (48%) are chronically malnourished. More than 47 million children under 5 years are stunted. About 43 per cent of children under age 5 years are underweight for their age. Over 6 per cent of children less than -5 years of age suffer from Severe Acute Malnutrition (SAM). Anaemia prevalence is as high as 70 per cent amongst under-5 children largely due to iron deficiency. During pre-school years, children continue to suffer from adverse effects of anaemia, malnutrition and developmental disabilities, which ultimately affects their performance in the school.

4.5.3 Diseases

Reports of different surveys indicate that in India the prevalence of dental caries among school children varies between 50–60 %. Rheumatic heart disease is reported at 1.5 per thousand among school children in the age group of 5–9 years and 0.13 to 1.1 per thousand among children aged 10–14 years. The prevalence of reactive air way disease including asthma among children is reported to be 4.75 %.

4.5.4 Developmental Delays and Disabilities

Globally, 200 million children do not reach their developmental potential in first 5 years because of poverty, poor health, nutrition, lack of early stimulation. Poverty and childhood stunting indicators are closely associated with poor cognitive and educational performance in children and failure to reach optimum developmental potential.Approx. 20% of babies discharged from health facilities are found to suffer from developmental delays or disabilities at a later age as reported by Special Newborn Care Units (SNCU) Technical Reports.

4.6 HEALTH CONDITIONS TO BE SCREENED

The following 30 selected health conditions are covered under RBSK for Screening, early detection and free management as given in Table 4.2 and Table 4.3.

Table 4.2: Birth defects and deficiencies

Birth Defects	Deficiencies
• Neural Tube Defects • Downs Syndrome • Cleft Lip and Palate • Talipes (CTEV) • Development dysplasia of Hip • Congenital Catract • Congenital deafness • Congenital Heart disease • Retinopathy of Prematurity	• Anaemia especially Severe Anaemia • Vitamin A Deficiency (Bitot spot) • Vitamin D Deficiency (Rickets) • Severe Acute Malnutrition • Goitre • Childhood Diseases

Table 4.3: Developmental delays and disability

Developmental Delays	Disabilities
• Skin conditions (Scabies, Fungal Infection and Eczema) • Otitis Media • Rheumatic Heart Disease • Reactive Airway Disease • Dental Caries • Convulsive Disorders	• Vision Impairment • Hearing Impairment • Neuro-Motor Impairment • Motor Delay • Cognitive Delay • Language Delay • Behaviour Disorder (Autism) Learning Disorder • Attention Deficit Hyperactivity Disorder Congenital Hypothyroidism, Sickle Cell Anaemia, Beta Thalassemia (Optional)

Check Your Progress 2

Mention the Health conditions to be covered under RBSK.

.....

.....

4.7 IMPLEMENTATION MECHANISMS

According to the GOI guidelines the following mechanism is used to reach all the target groups of children for health screening:

4.7.1 Newborn

This include following mechanism.

i) Facility based newborn screening at public health facilities, by existing health manpower.

This includes screening of birth defects in institutional deliveries at public health facilities, especially at the designated delivery points by ANMs, Medical officers / Gynaecologists. Existing health service providers at all designated delivery points will be trained to detect, register, report and refer birth defects to the District Early Intervention Centers (DEIC) in District Hospitals.

ii) Community based newborn screening (age 0-6 weeks) for birth defects during home visits.

Accredited SocialHealth Activists (ASHAs) during their home visits for newborn care are required to screen the babies born at home and the institutions till 6 weeks of age. They need to make six visits in case of institutional deliveries on day 3, 7,14,21,28 and 42. Seven visits are required in case of home deliveries on day 1, 3, 7,14,21,28 and 42. In addition, ASHA is also responsible for the following.

Responsibilities of ASHA

- Identification of birth defects among 0-6 weeks old babies
- Providing help to mothers for early stimulation of children of 0-6 weeks
- Explaining the screening programme to parents/caregivers of children upto 6 years and mobilise them to attend the screening camps by the dedicated mobile health team at local Anganwadi Centers.
- Helping parents in referral services, if required.

ASHAs are trained with simple tools for detecting gross birth defects. For performing the above tasks, she is equipped with a tool kit consisting of a pictorial reference book having self-explanatory pictures for identification of birth defects. Suitable performance based incentive is also to be provided to ASHAs.

4.7.1 Children 6 Weeks to 6 Years

Children in the age groups 6 weeks to 6 years of age will be examined in theAnganwadi Centers by the dedicated Mobile Health Teams.

4.7.2 Children 6 Years to 18 Years

Children between the age group of 6 to 18 years are screened at Government and Government aided school by dedicated Mobile Health Teams. Atleast three dedicated Mobile Health Teams in each Block are engaged to conduct screening of children. Villages within the jurisdiction of the Block are distributed amongst the mobile health teams. The number of teams may vary depending on the number of Anganwadi Centers, difficult to reach areas and children enrolled in the schools. The screening of children in the Anganwadi Centers is to be conducted atleast twice a year and atleast once a year for school children.

i) Composition of Mobile health Team

Now let us see what the composition of mobile health teams is. The mobile health team consists of the following members. (Table 4.4)

Table 4.4: Mobile Health Team

Member	Number
Medical officers (AYUSH) 1 male & 1 female atleast with a bachelor degree from an approved institution	2
ANM/Staff Nurse	1
Pharmacist with proficiency in computer for data management	1

In case a Pharmacist is not available, other paramedics such as lab Technician or Ophthalmic Assistant with proficiency in computer for data management may be considered.

For implementation of the health screening process, vehicles are hired for movement of the teams to Anganwadi Centers, Government and Government aided schools. A tool kit with essential equipment for screening of children is also provided to the Mobile Health Team members.

i) Roles and Responsibilities of Mobile Health Team

- Preparation of a calendar of visit schedule in consultation with other team members and by involving representatives from WCD and Education departments at the block level.
- Screening children at level of Anganwadi center and at Government & Government aided schools.
- Conducting anthropometry measurement of children, record findings in the screening tool cum referral card & enter observations in register for record and follow up.
- Maintaining inventory of drugs.
- Maintaining quality of referrals and emphasise importance of early screening and timely intervention to the parents/caregiver.
- Generating monthly reports and update Mobile Health Team registers.

ii) Composition of Tool Kit for Mobile Health Team

The tool kit for mobile health team includes age appropriate equipments for screening the developmental delays & for anthropometric measurements.

Equipments for Screening Including developmental Delays: For 6 weeks to 6 years

- Bell, rattle-to attract infant's attention and check the response to sound
- Torch-: for examination of eyes and ears one inch cubes- to check transfer of objects and different type of grasps
- Small bottle with raisins- for checking pincer grasp
- Squeaky toys
- Coloured wool, crayons for naming colours etc.

For 6 to 18 years

- Vision charts- measure the Visual Acuity in children and adolescent, reference charts.
- BP apparatus with age-appropriate cuff size of at least 2 sizes –paediatric (13–20 cm) and small adult (26–35 cm) for measuring blood pressure.
- A manual and a card specific to each age with age-appropriate developmental checklists to record milestones to identify developmental delays (6 weeks–9 years).

Equipments for Anthropometry: Age-appropriate Equipment are used such as

- Weighing scale (mechanical newborn weighing scale , standing weighing scale)
- Height measuring – Stadiometers for measuring height in older children while standing / Infantometers for measuring length in young infants (lying down).
- Mid arm circumference tape/ bangle- for assessing nutritional status and identification of SAM.
- Non stretchable measuring tape for head circumference- to assess development of the brain.

Check Your Progress 3

List the roles and responsibility of mobile health team.

.....

.....

4.8 DISTRICT EARLY INTERVENTION CENTER

The early intervention centers have been established at the District Hospital level across the country as District Early Intervention Centers (DEIC) for the following purposes.

4.8.1 Purposes of District Early Intervention Center

- Providing referral services to referred children
- Visiting all newborns delivered at the District Hospital for screening
- Ensuring that every child born sick or preterm or with low birth weight or any birth defect is followed up at the District Early Intervention Center
- Follow up and record maintenance of all the referrals for developmental delay.
- Screening the children for inborn errors of metabolism and other disorders at the District level
- Ensuring linkage with tertiary care facilities through agreed MOU.

District Early Intervention Center has a team consisting of a Pediatrician, a Medical officer, Staff Nurses, Paramedics for providing services, including referral. This team promptly responds to and manages all issues related to developmental delays, hearing defects, vision impairment, neuro-motor disorders, speech and language delay, autism and cognitive impairment. Children and students presumptively diagnosed to have a

disease/ deficiency /disability/ defect and who require confirmatory tests or further examinations are referred to the designated tertiary level public sector health facilities through the DEICs.The funds are provided under NHM for management at the tertiary level at the rates fixed by State Governments in consultation with Ministry of Health & Family Welfare.

4.8.2 District Early Intervention Center Team

The composition of district early intervention centre team are given in Table 4.5.

Table 4.5: Intervention Center Team Composition

Professionals	Number
Medical Professionals (Paediatrician -1, Medical Officer 1, Dental Doctor -1)	3
Physiotherapist	1
Audiologist & Speech Therapist	1
Psychologist	1
Optometrist	1
Interventionist cum Special Educator cum Social Worker	1
Lab Technician	2
Dental Technician	1
Manager	1
Data Entry Operator	1

4.9 TRAININGAND INSTITUTIONAL COLLABORATION

A 'cascading training approach' is adopted in order to ensure free flow of skills and knowledge at all levels and to maximise skill distribution. Standardised training modules have been developed to impart training. Based on the number of Block level teams required for the programme, an estimate of the training load is made for each year and appropriate budgets is included in the State's Annual Programme Implementation Plan (PIP) under the 'trainings head'. Cost of translation and printing of modules and formats and supportive supervision through the Regional Collaborating Center, is also included in the annual PIP.

The following collaborative centers in different regions of the country (Table 4.6) are identified to

- Coordinate, mentor, provide supportive supervision and train health workers of various cadres,

- Review data from blocks and health facilities to estimate the incidence/prevalence of various health conditions in the states, and
- Support them in establishing data base of children screened and diagnosed with specific disease, disorders, and disabilities that require long term follow up and treatment.

Table 4.6: Institutes Medical Colleges Hospitals and States/UTs

1) AIIMS	Delhi
2) Chandigarh, PGIMER	Jammu and Kashmir, Punjab, Haryana, Chandigarh, Himachal Pradesh, Rajasthan, Uttarakhand
3) SGPGI, Lucknow	Uttar Pradesh, Bihar
4) IPGMER, Kolkata	West Bengal and all North East States
5) KEM, Mumbai	Maharashtra, Goa
6) CDC, Trivandrum	Kerala
7) NIMH, Hyderabad	Andhra Pradesh
8) AYJNIHH, Mumbai	Maharashtra
9) AIISH, Mysore	Karnataka
10) MAMC, New Delhi	Delhi, Jharkhand
11) KSCH, New Delhi	Delhi, Odisha
13) CMC, Vellore	Tamil Nadu, A and Nicobar, Puducherry
14) ICH, Chennai	Tamil Nadu, Dadar and Nagar Haveli
15) Shankar Netralaya, Chennai	Tamil Nadu, Daman and Diu, Lakshadweep
16) LVPEI, Hyderabad	Andhra Pradesh
17) DIEC, Hoshangabad	Madhya Pradesh, Chhattisgarh

4.10 REPORTINGAND MONITORING

Programme monitoring is done by the identified nodal office at the State, District and Block level. The Block is the focal point of activity for all Child Health Screening and Early Intervention Services activities. The block programme manager assists the CHC Medical Officer in programme supervision and monitoring.The 'Child Health Screening Card' is -filled up by the Block Health Teams for every child screened during the visit. The health care providers at all delivery points screen the newborns and - fill

the same card, if referral is required.

The birth defects detected by ASHAs during home visits are referred to DH/DEIC for further management.All children detected are referred to the District Early Intervention Center for further management at the district or identi-fied tertiary level health institution.A 'Health Camp Register' and a tour diary is maintained by the Mobile Block Health Teams.

The Early Intervention Center at the District level also conducts screenings, manage the cases and maintain a 'DEIC Register'. The Monthly Reporting Form is filled by Mobile Health Teams, staff posted at District Early Intervention Centers, preferably by healthcare providers at the health facilities where deliveries take place. The same monthly format is used for data compilation by Block Health Manager, District Nodal officer and State Nodal Officer. The State Nodal Officer sends this report on a monthly basis to the Child Health Division of the Ministry of Health and Family Welfare.

4.11 LET US SUM UP

In this unit we discussed about the details of Rsshtriya Bal Swasthyia Karyakaram.RBSK is a programme started under the aegis of NRHM in February 2013. It was initiated by MOHFW to reduce child mortality and to improve the overall quality of the life of children. It enables a systematic approach to Child health screening and early intervention. It covers children from birth to 18 years. This programme aims at early detection and management of "4Ds" that are Defects at Birth, Deficiencies, Diseases, Developmental delays including Disabilities.

The services aim to cover children of 0–6 years of age in rural areas and urban slums in addition to children enrolled in classes 1st to 12th in Government and Government aided Schools. Child Health Screening and Early Intervention Services under RBSK envisages to cover 30 selected health conditions for Screening, early detection and free management through interventions for newborns, children from 6 weeks to 6 year and 6 yr to 18 yr at facilities like PHC/CHC/DH,by medical officers & nurses, home visits by ASHA, screening by mobile health teams atAngawadis using age appropriate tools and referral to the DEIC if required. The DEIC promptly responds to and manages all cases referred to it related to developmental delays, hearing defects, vision impairment, neuro-motor disorders, speech and language delay, autism and cognitive impairment through the team of health care professionals. Monthly reporting and monitoring is important for evaluation of progress of the programme.

Check Your Progress 4

List the Purposes of District Early Intervention Center DEIC.

.....

.....

4.12 MODEL ANSWERS

Check Your Pogress 1

The benefits of the 'Child Health Screening and Early Intervention Services' are given below.

- Timely intervention halts the condition to deteriorate.
- It reduces the out-of-pocket (OOP) expenditure of the poor and the marginalised population in the country.
- It will also provide country-wide epidemiological Data on the 4 Ds (i.e., Defects at birth, Diseases, Defeciencies and Developmental Delays including Disabilities). Such a data is expected to hold relevance for future planning of area specific services.

Check Your Pogress 2

The following 30 selected health conditions are covered under RBSK for Screening, early detection and free management.

Birth Defects	Deficiencies
• Neural Tube Defects • Downs Syndrome • Cleft Lip and Palate • Talipes (CTEV) • Development dysplasia of Hip • Congenital Catract • Congenital deafness • Congenital Heart disease • Retinopathy of Prematurity	• Anaemia especially Severe Anaemia • Vitamin A Deficiency (Bitot spot) • Vitamin D Deficiency (Rickets) • Severe Acute Malnutrition • Goitre • Childhood Diseases

Developmental Delays	Disabilities
• Skin conditions (Scabies, Fungal Infection and Eczema) • Otitis Media • Rheumatic Heart Disease • Reactive Airway Disease • Dental Caries • Convulsive Disorders	• Vision Impairment • Hearing Impairment • Neuro-Motor Impairment • Motor Delay • Cognitive Delay • Language Delay • Behaviour Disorder (Autism) Learning Disorder • Attention Deficit Hyperactivity Disorder Congenital Hypothyroidism, Sickle Cell Anaemia, Beta Thalassemia (Optional)

List the Roles and Responsibilities of Mobile Health Team

1) Preparation of a calendar of visit schedule in consultation with other team members and by involving representatives from WCD and Education departments at the block level .
2) Screening children at level of Anganwadi center and at Government & Government aided schools.
3) Conducting anthropometry measurement of children, record findings in the screening tool cum referral card & enter observations in register for record and follow up.
4) Maintaining inventory of drug.
5) Maintaining quality of referrals and emphasise importance of early screening and timely intervention to the parents/caregiver.
6) Generating monthly reports and update Mobile Health Team registers.

Check Your Pogress 4

Purposes of District Early Intervention Center DEIC

- Providing referral services to referred children
- Visiting all newborns delivered at the District Hospital for screening
- Ensuring that every child born sick or preterm or with low birth weight or any birth defect is followed up at the District Early Intervention Center
- Follow up and record maintenance of all the referrals for developmental delay
- Screening the children for inborn errors of metabolism and other disorders at the District level
- Ensuring linkage with tertiary care facilities through agreed MOU.

4.13 REFERENCES

1) Cabinet Committee on Economic Affairs release 24th Sept, 2012.
2) District Information System for Education 2010-11: Flash Statistics, NUEPA & DSEL Directorate of School Education and Literacy, MOHRD, GOI. and State Report Cards: 2010-11 Secondary education in India, National University of Educational Planning andAdministration.
3) Elementary Education in India, 2012.
4) Lancet series on Child Development.
5) March of Dimes global report on birth defects 2006.
6) National Family Health Survey – 3 (NFHS-3), 2005-06.
7) Operational Guidelines: Rashtriya Bal Swasthyia Karyakaram (RBSK) 'Child Health Screening and Early Intervention Services'MOHFW, GOI, February 2013.
8) Participants'manual for mobile health teams, Ministry of Health & Family Welfare, Government of India, July 2014.
9) Resource Material: Rashtriya Bal Swasthyia Karyakaram (RBSK) 'Child Health Screening and Early Intervention Services' MOHFW, GOI, February 2013.
10) Technical reports on Operational Status of SNCUs in India, 2012.

UNIT 5 UNIVERSAL IMMUNISATION PROGRAMME



Structure

5.0 Introduction

5.1 Objectives

5.2 Universal Immunisation Programme

- 5.2.1 Milestone in India's Immunisation Programme
- 5.2.2 Vaccines and Vaccine Preventable Disease
- 5.2.3 National Immunisation Schedule

5.3 Open Vial Policy

5.4 Vaccines under Universal Immunisation Programme and Frequently Asked Questions (FAQs)

5.5 Cold Chain

5.6 U-WIN - Digital platform for data recording & reporting

5.7 Adverse Events Following Immunisation (AEFI)

5.8 Routine Immunization Microplanning

5.9 Injection Safety and Waste Disposal

5.10 Let Us Sum Up

5.11 References

5.0 INTRODUCTION

Immunization is one of the most cost-effective health investments and a success story for global health and development. It is a well-established fact that, vaccination has reduced morbidity and mortality due to many infections, cancers and other chronic diseases, globally. Immunization helps protect the child from life threatening disease. It also helps reduce the spread of disease to others. Full immunization against preventable childhood diseases is the right of every child. With a view to provide this right to every child, the Government of India launched the Universal Immunization Programme (UIP) in 1985, one of the largest health programs of its kind in the world. The National Vaccine Policy was revised in 2011 with a goal to guide decision making to develop a long-term plan to strengthen the UIP.

To ensure informed decision making for any modification in UIP schedule or inclusion of new vaccines, there is a National Technical Advisory Group on Immunization (NTAGI) which comprises of a number of technical experts, national Programme leaders and managers, representatives from development partners and professional bodies.

In this unit we shall discuss and review Universal Immunization Programme, Open Vial Policy, Mission Indradhanush, Cold chain, vaccines and frequently asked questions, adverse effects of immunization and at the end we shall discuss the reasons of low coverage.

5.1 OBJECTIVE

After completing this unit, you should be able to:

- explain evolution of immunisation programme.
- describe National immunisation schedule.
- explain open vial policy and its rationale.
- discuss Mission Indradhanush and its relevance.
- enlist various vaccines under UIP.
- explain cold chain.
- discuss and recognise various adverse effects following immunisation; and
- explain the reasons of the low coverage.

5.2 UNIVERSAL IMMUNIZATION PROGRAMME

5.2.1 Milestones in India's immunization programme

India's immunization programme has evolved significantly since its inception, achieving several key milestones over the decades. Here is a timeline of major **milestones in India's immunization programme**:

Pre-1978: Early Efforts

- 1948: BCG vaccination started on a limited scale.
- 1970: Smallpox eradication programme initiated.

1978 – Expanded Programme on Immunization (EPI)

- India launched the **EPI** to provide vaccines against **six vaccine-preventable diseases (VPDs)**: Diphtheria, Pertussis, Tetanus, Polio, Tuberculosis, and Measles.

1985 – Universal Immunization Programme (UIP)

- EPI was expanded into the **Universal Immunization Programme (UIP)**.
- UIP was made a **part of the National Technology Mission** in 1986.
- Goal: Cover all districts and provide free vaccines to all children.

1995 – Pulse Polio Programme

- **Mass immunization campaign** launched to eradicate poliomyelitis.
- Led to **India being declared polio-free in 27th March 2014** by WHO.

2009 – Introduction of New Vaccines

- **Hepatitis B** vaccine included in UIP.
- **Second dose of measles** vaccine added in 2010.

2011 – National Vaccine Policy

- A framework for strengthening vaccine production, research, and regulation in India.

2013 – Open Vial Policy

- Open vial policy started for certain vaccines.

2014 – Mission Indradhanush

- Aimed to **increase immunization coverage to 90%**.
- Focus on underserved and hard-to-reach populations.
- **Intensified Mission Indradhanush (IMI)** launched in 2017 for faster coverage.

2016 – Introduction of Rotavirus Vaccine

- To prevent diarrheal deaths in children under 5.

2017 – Pneumococcal Conjugate Vaccine (PCV)

- Introduced to prevent pneumonia in children.

2018 – Measles-Rubella (MR) Vaccine Campaign

- Nationwide campaign to eliminate measles and control rubella by 2023.

2019 – National Digital Health Mission

- Digitization of health records including immunization data.

2020 – COVID-19 Pandemic Response

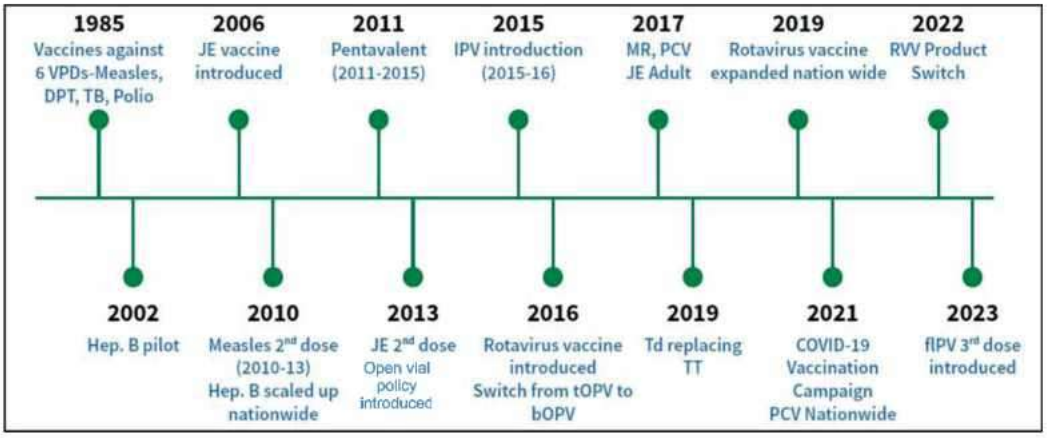
- World's largest adult vaccination programme initiated.
- Use of **CoWIN platform** to track and manage vaccinations.

2021 – COVID-19 Vaccine Rollout

- Launch of vaccines like **Covishield**, **Covaxin**, and later others.
- **India achieved over 2 billion COVID-19 vaccine doses by 2022.**

Ongoing and Recent Updates

- Continued expansion of **digital tracking** (U-WIN platform pilot for routine immunization).
- Focus on **HPV vaccine introduction** to prevent cervical cancer.
- Strengthening cold chain and logistics via **eVIN (electronic Vaccine Intelligence Network)**.



5.2.2 Vaccine And Vaccine Preventable Diseases

Under the Universal Immunization Programme (UIP), includes a comprehensive list of vaccines administered to infants, children, and pregnant women to prevent various infectious diseases. Below is an overview of the key vaccines included in the schedule:

- **BCG (Bacillus Calmette–Guerin)**: Administered at birth or as early as possible until one year of age to prevent tuberculosis.
- **Hepatitis B (Birth Dose)**: Given within 24 hours of birth to protect against hepatitis B virus.
- **Oral Polio Vaccine (OPV)**: OPV-0 is given at birth; subsequent doses (OPV-1, OPV-2, OPV-3) are administered at 6, 10, and 14 weeks, respectively, to prevent poliomyelitis.
- **Inactivated Polio Vaccine (IPV)**: Fractional IPV is given at 6 and 14 weeks & 9 months to enhance polio immunity.
- **Pentavalent Vaccine**: A combination vaccine administered at 6, 10, and 14 weeks to protect against diphtheria, pertussis, tetanus, hepatitis B, and Haemophilus influenzae type b (Hib).
- **Rotavirus Vaccine**: Given at 6, 10, and 14 weeks to prevent severe diarrhoea caused by rotavirus.
- **Pneumococcal Conjugate Vaccine (PCV)**: Administered at 6 and 14 weeks, with a booster at 9 months, to protect against pneumococcal diseases like pneumonia and meningitis.
- **Measles-Rubella (MR) Vaccine**: The first dose is given at 9–12 months and the second dose at 16–24 months to protect against measles and rubella.
- **Japanese Encephalitis (JE) Vaccine**: Administered at 9–12 months and again at 16–24 months in endemic districts to prevent Japanese encephalitis. *(JE Vaccine Applicable only in few districts of Bihar and Uttar Pradesh)*
- **Diphtheria, Pertussis, and Tetanus (DPT) Vaccine**: Booster doses are given at 16–24 months and 5–6 years to maintain immunity against these diseases.
- **Vitamin A Supplementation**: Given at 9 months and then every 6 months up to 5 years to prevent vitamin A deficiency-related complications.
- **Tetanus Diphtheria (Td)**: Td-1 is administered as early as possible during

pregnancy; Td-2 is given 4 weeks after Td-1; and a Td-Booster is given if two doses were received in a previous pregnancy within the last 3 years to prevent neonatal tetanus.

Under the Universal Immunization Programme (UIP), includes a comprehensive list of vaccines administered to infants, children, and pregnant women to prevent various infectious diseases. Below is an overview of the key vaccines included in the schedule:

- BCG (Bacillus Calmette–Guerin)
- Hepatitis B
- Oral Polio Vaccine (OPV)
- Inactivated Polio Vaccine (IPV)
- Pentavalent Vaccine
- Rotavirus Vaccine
- Pneumococcal Conjugate Vaccine (PCV)
- Measles-Rubella (MR) Vaccine
- Japanese Encephalitis (JE) Vaccine
- Diphtheria, Pertussis, and Tetanus (DPT)
- Tetanus Diphtheria (Td)
- Vitamin A Supplementation

Vaccine Preventable Diseases

- BCG (Bacillus Calmette–Guerin): Tuberculosis
- Hepatitis B: Hepatitis B virus
- Oral Polio Vaccine (OPV): Poliomyelitis (Polio)
- Inactivated Polio Vaccine (IPV): Enhance Polio immunity
- Pentavalent Vaccine: Diphtheria, Pertussis, Tetanus, Hepatitis B, and Haemophilus influenzae type b (Hib)
- Rotavirus Vaccine: Diarrhoea caused by rotavirus
- Pneumococcal Conjugate Vaccine (PCV): Pneumococcal diseases
- Measles-Rubella (MR) Vaccine: Measles and Rubella
- Japanese Encephalitis (JE) Vaccine: Japanese encephalitis
- Diphtheria, Pertussis, and Tetanus (DPT): Diphtheria, Pertussis, Tetanus
- Tetanus Diphtheria (Td): Tetanus & Diphtheria
- Vitamin A Supplementation: Prevent vitamin A deficiency-related complications.

5.2.3 National Immunization Schedule (NIS) for Pregnant Women, Infants and Children

T_aag c	Age of administration	Maximum age	Dose	Route	Site
For Pregnant Women					
Td-1	As early as possible during First Antenatal visit	4 wks before EDD* If not received, any time before delivery	0.5 ml	Intra-muscular	Upper Arm in Deltoid region
Td-2*	4 weeks after Td-1	Any time after 4 wks from Td-1	0.5 ml	Intra-muscular	Upper Arm in Deltoid region
Td- Booster	If received 2 Td doses during pregnancy within the last 3 years	4 wks before EDD* If not received, any time before delivery	0.5 ml	Intra-muscular	Upper Arm in Deltoid region
For Infants					
BCG[$]	At birth	one year of age, before 1st birthday	0.05 ml (upto 1 month of age) 0.1ml (1 month to 1 year)	Intra-dermal	Upper Arm in Deltoid region - **LEFT**
Hepatitis B -Birth dose	At birth	within 24 hours of birth	0.5 ml	Intra-muscular	Antero- lateral side of mid-thigh - **LEFT**
bOPV-0	At birth	within the first 15 days of age	2 drops	Oral	Mouth
bOPV 1, 2 and 3	At 6, 10 and 14 weeks of age	till 5 years of age	2 drops	Oral	Mouth
Rotavirus vaccine 1, 2 and 3[^]	At 6, 10 and 14 weeks of age	1 year of age	5 drops or 2ml as per vaccine formulations	Oral	Mouth
f-IPV 1, 2 and 3	At 6, 14 weeks and at 9 -11 months of age	1 year of age	0.1 ml	Intra-dermal	Upper Arm in Deltoid region **-RIGHT** for fIPV-1 & fIPV-2 **-LEFT** for fIPV-3
Pneumococcal Conjugate Vaccine (PCV) (2 Primary +1 booster)	At 6, 14 weeks for primary doses, and 9-11 months for booster dose	1 year of age	0.5 ml	Intra-muscular	Antero-lateral side of mid-thigh **-RIGHT**
Pentavalent 1, 2 and 3	At 6, 10 and 14 weeks of age	1 year of age	0.5 ml	Intra-muscular	Antero- lateral side of mid-thigh- **LEFT**
Measles Rubella vaccine (MR) 1st dose[#]	9 to 11 months of age	5 years of age	0.5 ml	Sub-cutaneous	Upper arm in Deltoid region - **RIGHT**
Japanese Encephalitis- 1[¥] (in selected districts)	9 to 11 months of age	2 years of age (Killed & live vaccine)	0.5 ml	Killed Vaccine: Intra-muscular Or Live attenuated Vaccine: Subcutaneous	Killed vaccine: Antero-lateral side of mid-thigh – **LEFT** Or Live attenuated vaccine: Upper arm in Deltoid region – **LEFT**
Vitamin A (1st dose)	9 months with MR 1st dose	5 years of age	1 ml (1 lakh IU)	Oral	Mouth

For Children					
bOPV Booster	16 to 23 months	5 years of age	2 drops	Oral	Mouth
MR 2nd dose#	16 to 23 months of age	5 years of age	0.5 ml	Sub-cutaneous	Upper Arm-**RIGHT**
DPT Booster-1	16 to 23 months of age	7 years of age	0.5 ml	Intra-muscular	Antero- lateral side of mid-thigh-**LEFT**
JE vaccine 2nd dose¥ (in selected districts)	16 to 23 months of age	2 years of age	0.5 ml	Killed Vaccine: Intra-muscular or Live attenuated Vaccine: Subcutaneous	Killed vaccine: Antero-lateral side of mid-thigh – **RIGHT** or Live attenuated vaccine: Upper arm – **LEFT**
Vitamin A (2nd to 9th dose)	16 to 23 months with MR 2nd dose, subsequent doses at an interval of 6 months, upto 5 years of age	5 years of age	2 ml (2 lakh IU)	Oral	Mouth
DPT Booster-2	5 to 6 years of age	7 years of age	0.5 ml	Intra-muscular	Upper Arm -**LEFT**
Td	10 and 16 years of age	16 years of age	0.5 ml	Intra-muscular	Upper Arm -**LEFT**

Note: Age mentioned in above table are in completed weeks/ months/ years

*EDD=Expected Date of delivery

$BCG vaccine requires reconstitution with diluent which is supplied by the manufacturer

^ Rota virus vaccine – Open vial policy is applicable to RVV with VVM on the label; Not applicable to RVV with VVM on the cap

#MR vaccine requires reconstitution with diluent which is supplied by the manufacturer

¥JE Vaccine is provided in select districts in India. Live JE vaccine requires reconstitution with diluent which is supplied by the manufacturer.

5.3 OPEN VIAL POLICY

The Open Vial Policy was introduced in the year 2013. Open Vial Policy allows reuse of partially used vials in subsequent session (fixed & outreach) subject to meeting certain conditions.

Conditions that must be fulfilled for the use of open vial:

- Any vial of the applicable vaccines opened/used in a session (fixed or outreach) can be used at more than one immunization session up to four weeks (28 days) provided that:
- The expiry date has not passed.
- The vaccines are stored under appropriate cold chain conditions both during transportation and storage in cold chain storage point.
- The vaccine vial septum has not been submerged in water or contaminated in any way.
- Aseptic technique has been used to withdraw vaccine doses. (That is needle/septum has not been contaminated in any way)
- The vaccine vial monitor (VVM) has not reached/crossed the discard point.
- Cold chain maintenance during vaccine distribution

Discard vaccine vial in case any one of the following conditions is met:

- Expiry date has passed.
- VVM reached/crossed discard point (for freeze dried vaccine, before reconstitution only) or vaccine vials without VVM or disfigured VVM.
- No label/partially torn label and/or writing on label not legible.
- Any vial thought to be exposed to non-sterile procedure for withdrawal.
- Open vials that have been under water or vials removed from a vaccine carrier that has water.
- If vaccine vial is frozen or contains floccules or any foreign body.
- If there is breakage in the continuity of the vials (crack/ leaks).
- If there is any reported AEFI following use of any of the vaccine vial, do not use it, and retain it safely and inform Medical Officer and/or Supervisor.

Open Vial Policy Applicable on

- DPT, Td, Hepatitis B,
- Oral Polio Vaccine (OPV),
- Pentavalent vaccine
- Inactivated Poliovirus Vaccine (IPV)
- PCV
- RVV on Label VVM

Open Vial Policy Not Applicable on

- MR (Measles Rubella)
- BCG
- RVV Cap VVM

At session site

- Open Vial Policy is NOT applicable to opened reconstituted vials of MR, BCG and JE vaccine (in selected districts).
- Reconstitute the vial ONLY with diluent provided by manufacturer for that batch of the vaccine.
- Date and time of reconstitution must be mentioned on the label of the vial immediately following reconstitution.
- ANM need to reconstitute the required vaccine vial even if there is a single beneficiary

5.4 FREQUENTLY ASKED QUESTIONS (FAQS)

General queries on immunization

1. **What is vaccination?**

   Vaccination is the process of administering vaccines for the development of the body's protective response. Immunization is the procedure by which an individual is made resistant or immune to a disease by administrating a vaccine. Immunization is thus the outcome of vaccination.

2. **What are the different types of vaccines?**

   There are four main types of vaccines: Live attenuated vaccines (LAV),

inactivated/killed vaccines, Subunit or Recombinant and Toxoid (Inactivated toxins). Live attenuated vaccines are derived from disease-causing viruses or bacteria that have been weakened under laboratory conditions. They replicate in a vaccinated individual, but because they are weak, they may cause only a mild form of the disease. Examples of live vaccines are BCG, Measles-Rubella (MR), Rotavirus, bivalent Oral Polio Vaccine (bOPV). Inactivated/killed vaccines are produced by viruses or bacteria which are inactivated with heat or chemicals. They cannot grow in a vaccinated individual and so cannot cause the disease. Multiple doses are required as per guideline to attain full protection. Use of adjuvants enhances response to non-live vaccines. Examples are whole-cell (pertussis), fractional polysaccharide-based conjugate (Haemophilus influenzae type b or Hib) and IPV. Subunit or Recombinant vaccines are produced by inserting genetic material from a disease-causing organism into a harmless cell, which replicates the proteins of the disease-causing organism. The proteins are then purified and used as vaccines. An example is the Hepatitis B vaccine. Toxoid vaccines are made from a toxin that has been made harmless, but which elicits an immune response against the toxin. Toxoid vaccines are safe because they cannot cause the disease they prevent and there is no possibility of reversion to virulence. The vaccine antigens are not actively multiplying and do not spread to unimmunized individuals. Examples are Tetanus toxoid and diphtheria toxoid.

3. **What is "Open Vial Policy"? Which are the vaccines on which "Open Vial Policy" applies?**

   The Open Vial Policy (OVP) underlines guidelines for the reuse and storage of open vaccine vials of specific types that contain a few doses at the end of a session, provided certain criteria are fulfilled in order to minimize vaccine wastage while at the same time ensuring vaccine safety and efficacy. The policy allows reuse of partially used multi-dose vials of applicable vaccines under UIP in subsequent sessions (both fixed and outreach) up to four weeks (28 days) from the date of opening written on the vial and provided within the expiry date and usable VVM. Open Vial Policy is applicable to the open multi-dose vials of Hep B, OPV, IPV, PCV, DPT, Td, RVV with VVM on label and Pentavalent vaccine. The policy DOES NOT apply to BCG, MR, Rotavirus vaccines with VVM on cap/stem. All vaccines where open vial policy does not apply vaccines are to be used up to a maximum of 4 hours after reconstitution or opening. Note: All vaccine vials must be marked with the date & time of opening/reconstitution of the vial at first use.

Queries on immunization schedule

4. **If a child is brought late for a subsequent dose, should one restart with the first dose of a vaccine?**

   No, do not restart the schedule again; pick up where the schedule was left off. For example, if a child who has received BCG, Penta 1 and bOPV 1 at 5 months of age returns at 11 months of age, then vaccinate the child with the subsequent doses as per NIS. Like in this case, the child will get Penta 2, bOPV 2, MR 1, Rotavirus vaccine 1, PCV 1.

5. **If a child who has never been vaccinated is brought in at 9 completed months but before 12 completed months of age, then, can all the due vaccines be given to a child on the same day?**

   Yes, all the due vaccines can be given during the same session but at

recommended injection sites, using separate AD syringes. It is safe and effective to give BCG, Pentavalent, bOPV, IPV, MR, RVV, PCV vaccines and Vitamin A at the same time to the 9-month-old child, who has never been vaccinated. NEVER MIX TWO VACCINES IN ONE SYRINGE. Always use separate syringe for one vaccine. If more than one injection has to be given in one limb then ensure that the distance between the two injection sites is at least 1 inch apart.

6. What are the upper age limits for various vaccines?

According to National Immunization Schedule, some vaccines have an upper age limit for administration of the first dose of the vaccine and these vaccines should not be administered once that age limit is crossed. Upper age limit for the first dose of the vaccines is as follows:

i. BCG: up to one year of age for childhood vaccination.
ii. Hepatitis B (Birth dose): till 24 hours of birth
iii. bOPV-0 dose: till 15 days of birth
iv. bOPV: up to five years of age
v. IPV: Till 1 year of age
vi. Pentavalent: Till 1 year of age
vii. RVV: Till 1 year of age
viii. PCV: Till 1 year of age
ix. MR: up to five years in UIP and in MR campaigns, the vaccine is given up to 15 years age group
x. DPT: up to 7 years, beyond this age administer the Td vaccine

Only the above-mentioned vaccines have upper age limits for starting the first dose. Efforts should be made to ensure that all vaccines are given at the recommended ages, or closer to it. For Pentavalent, IPV and PCV, if at least one dose is given before one year of age, then remaining doses can be administered, and the schedule must be completed at the earliest. If the first dose is not administered before one year of age, then these vaccines cannot be administered to the child under UIP.

7. If a child who has NEVER BEEN VACCINATED and is brought in immediately after completing 12 months of age, (beyond one year) what vaccines would you give?

While vaccinating this child, keep the upper age limits for each vaccine in mind. This child should be administered DPT 1, bOPV 1, MR-1, and Vitamin A solution. The subsequent doses of DPT (2 and 3), bOPV (2and 3), MR-2 should be given at an interval of 4 weeks. Give booster dose of bOPV and DPT at a minimum of 6 months after administering bOPV 3/DPT 3. As per the national immunization schedule this child need not be given - BCG, Rotavirus, Penta and IPV, PCV.

8. Which vaccines can be given to a child between 1 and 5 years of age who has never been vaccinated?

i. This child should be administered 3 doses of DPT, 3 doses of bOPV, 2 doses of MR and 2ml of Vitamin A solution. These doses should be given at an interval of 4 weeks. Such a child will not receive BCG, Hepatitis B, Rotavirus, Penta and IPV.
ii. Give booster dose of bOPV/DPT at a minimum of 6 months after administering bOPV 3/ DPT 3.

*Note: If an unvaccinated child is more than 16 months of age remember the interval between MR 1 and MR 2 is 4 weeks.

9. Which vaccines can be given to a child between 5 and 7 years of age who has never been vaccinated?

Give of DPT 1, 2 and 3 at 4 weeks intervals. Give booster dose of DPT at a minimum of 6 months after administering DPT 3 up to the age of 7 years. In case the child is near to the 7th year, start with DPT. Once this child crosses 7 years, Td vaccine should be used in place of DPT for the remaining doses. Thereafter, this child continues to receive the Td vaccine at 10 years and 16 years as per the NIS.

10. What is Left out and drop out in context of immunization ?

Drop Out: In immunization, dropout refers to the situation where a child or beneficiary receives the initial dose(s) of a vaccine but fails to complete the full recommended schedule.

Left Out: In immunization, "left out" refers to a child who has not received any vaccine doses despite being eligible according to their age.

Vaccine-specific FAQs:

BCG Vaccine

11. Why is BCG given only up to 1 year age of the child in UIP?

Most children acquire natural clinical/sub-clinical tuberculosis infection by the age of 1 year. This protects them against severe forms of childhood tuberculosis, e.g., TB meningitis and miliary disease. Hence as per the current NIS, BCG is given only up to 1 year of age of child.

Hepatitis B Vaccine

12. What is hepatitis?

Hepatitis is an inflammation of the liver, most commonly caused by a viral infection. There are five main hepatitis viruses, referred to as types A, B, C, D and E. These five types are of the greatest concern because of the burden of illness and death they cause and the potential for the spread of outbreaks and epidemics. In particular, types B and C lead to chronic disease in hundreds of millions of people and, together, are the most common cause of liver cirrhosis and liver cancer. Hepatitis A and E are typically caused by ingestion of contaminated food or water. Hepatitis B, C and D usually occur as a result of parenteral contact with infected body fluids. Common modes of transmission for these viruses include receipt of contaminated blood or blood products and using contaminated equipment in invasive medical procedures. For hepatitis B, the causes are transmission from mother to baby at birth and also by sexual contact. Acute infection may occur with limited or no symptoms or may include symptoms such as jaundice (yellowing of the skin and eyes), dark urine, extreme fatigue, nausea, vomiting and abdominal pain.

Pentavalent Vaccine

13. What is the Pentavalent vaccine?

- Pentavalent vaccine is a vaccine that contains five antigens (Diphtheria + Pertussis + Tetanus+ Hepatitis B + Haemophilus influenzae type b).
- **How is the pentavalent vaccine more advantageous?**

I. The addition of Hib vaccine provides protection against Haemophilus Influenzae type B related diseases (bacterial meningitis, pneumonia and

others)

ii. Operationally, the Pentavalent vaccine per session shall reduce injection load from 9 (3 for DPT, 3 for Hep B & 3 for Hib) to 3 (reduction of 6 injections).

iii. With introduction of Pentavalent, 1 antigen was added, while the number of injections reduced to 3.

14. For what reasons should a child not be given the Pentavalent vaccine?

A child below 6 weeks of age should not be given the Pentavalent vaccine.

i. Severe allergic reactions - although serious side effects have not been reported, a child who has had a severe reaction to the Pentavalent vaccine earlier should not be given another dose.

ii. Children with moderate or severe acute illness should not be administered a Pentavalent vaccine until their condition improves.

iii. Minor illnesses, however, such as upper respiratory infections (URI) are not a contraindication to vaccination.

15. . What vaccine will be given to a child who has received at least one dose of pentavalent vaccine before his/her first birthday?

If a child has received at least one dose of pentavalent vaccine before his/her first birthday, the child should be administered the due pentavalent doses at a minimum interval of 4 weeks, at the earliest available opportunity.

Rotavirus Vaccine

16. What is Rotavirus?

i. Rotavirus is a highly contagious virus.

ii. It is the most common organism that causes diarrhea among children which may lead to hospitalization and death.

iii. Approximately 50% of Rotavirus-associated deaths occurred in the first year of life and about 75% occur in the first two years of life.

iv. The burden of Rotavirus diarrhea and associated death varies by region, age and sex in India.

17. What is the maximum age limit for giving the first dose of Rotavirus vaccine?

The upper age limit for the first dose of Rotavirus vaccine is one year of age. If a child has received only the first dose of Rotavirus vaccine by 12 months of age, two more doses of the vaccine should be given at an interval of 4 weeks between the two doses to complete the course at the earliest.

18. What should be done if a child has received one or two doses of Rotavirus vaccine in a private facility?

If the parents want to vaccinate their child from the public sector after receiving one or two doses of Rotavirus vaccine in a private facility, the remaining doses may be provided as per the NIS. Under the UIP, interchangeability between different Rotavirus vaccines is permitted.

19. What if the child spits out the Rotavirus vaccine or vomits immediately after having it?

Repeat the dose (2.5ml). In case an incomplete dose is administered (the infant spits out or regurgitates most of the vaccine), repeat the dose in the same vaccination visit. To prevent spitting, please position the tip (nozzle) of the 6ml oral syringe towards the inner cheek (buccal cavity). Administer the vaccine slowly. Avoid administering the vaccine over the tongue. It should also be ensured that the tip of the syringe (nozzle) is not touched with finger

before administration.

Inactivated Poliovirus Vaccine (IPV)

20. What is IPV?

IPV refers to Inactivated Poliovirus Vaccine administered by injection and it contains all 3 types of polioviruses. Evidence suggests that IPV vaccine, when used along with bOPV (which contains only Type 1 and Type 3 live attenuated vaccine viruses), increases the protection of the individual as well as the community. IPV together with OPV prevents re-emergence and reinflection of wild poliovirus (WPV). tOPV has been withdrawn globally in 2016 from all countries and only bOPV is in use in its place.

21. Are there any contraindications for use of IPV?

IPV should not be administered to children with a documented or known allergy to streptomycin, neomycin or polymyxin B, or with a history of a previous allergic reaction after IPV injection.

22. . Is it safe to give IPV and bOPV together?

Yes, it is absolutely safe to give IPV and bOPV together. It is also important - and best - for a child to receive both IPV and OPV. Together, these two vaccines provide safe and strong protection against polio.

Measles / Rubella (MR) Vaccine

23. Why is Measles-Rubella vaccine given?

This Measles -Rubella vaccine is given for preventing both measles and rubella disease in the child, as these diseases can be only prevented by vaccination.

24. If a child comes after 2 years for the first dose of MR vaccine, then can he/she get the second dose?

All efforts should be made to immunize all children at the right age, i.e., the first dose at completed 9 months to 11 months and the second dose at 16-24 months. However, if a child has missed one dose or both the doses, these need to be given to the child up to the age of 5 years at one month interval.

Pneumococcal Conjugate Vaccine (PCV)

25. What is pneumococcal disease?

i. Pneumococcal disease is a group of diseases caused by bacterium Streptococcus pneumoniae (also known as pneumococcus).

ii. The most serious of these diseases are pneumonia, meningitis, and blood stream infections.

iii. Streptococcus pneumoniae is the leading cause of bacterial pneumonia in children under 5 years of age.

iv. It is important to note that, against all the pneumonia-causing organisms, NIS already has vaccines against many like Diphtheria, pertussis, Measles, Hib, and now Pneumococcal too.

Tetanus and adult diphtheria (Td) vaccine

26. What is Td vaccine?

Tetanus and adult diphtheria (Td) vaccine is a combination of tetanus and diphtheria with lower concentration of diphtheria antigen (d) as recommended for older children and adults.

27. Why Td vaccine needed for pregnant women?

The use of Td is recommended during pregnancy to protect against maternal and neonatal tetanus & diphtheria during prenatal care. Vaccination during pregnancy also serves to boost immunity and increase the duration of protection in those pregnant women who had not received the full set of recommended booster doses. Td also boost decreasing diphtheria immunity in addition to assuring tetanus protection, and help to curtail diphtheria outbreaks

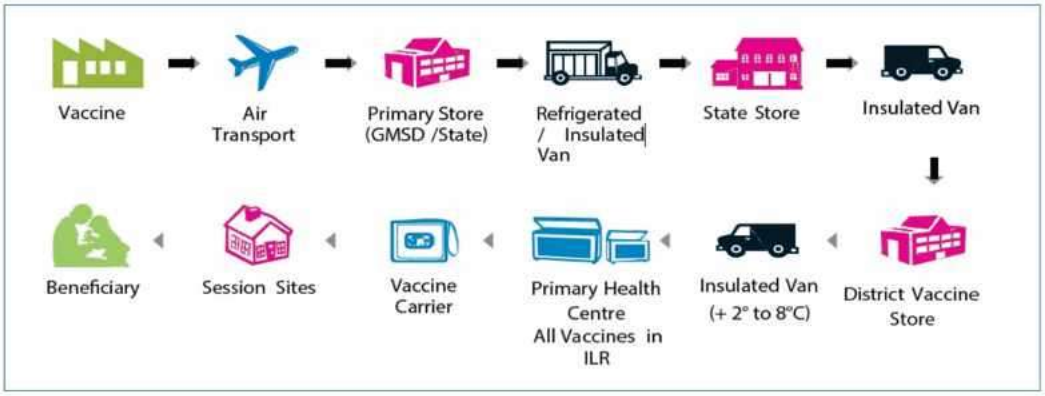
5.5 COLD CHAIN AND LOGISTICS MANAGEMENT

Journey of vaccine from point of manufacture to the beneficiary:

Cold Chain is a system of storing and transporting vaccines at recommended temperatures from the point of manufacture to the point of use. A vaccine once manufactured is supplied to the beneficiary within the recommended temperature range to maintain its potency. The vaccines are supplied in tertiary boxes (usually a thermocol box) which usually contain secondary packaging (cardboard box/plastic packing) of vaccines. The vaccines are supplied to the primary stores (GMSD, state or regional vaccine stores) by the manufacturer usually by air or road route. In India, usually 80% of the annual supply is made directly to the primary stores. Approximately twenty percent of the annual supply is stored at the GMSD as buffer.

From the primary store, the vaccines are transported to the lower stores through insulated trucks/vans or refrigerated vaccine van or trucks.

Last cold-chain (ILR) points, store vaccines and supply them to the session sites in vaccine carrier through Alternate Vaccine Delivery (AVD) systems.



Non-Electric Cold Chain Equipment:

1. Cold Box:



(a) Capacity for storing & transporting of mixed antigen with conditioned Ice packs

- 5 - 8 liters = 1200 - 2000 doses
- 20 - 22 liters = 4000 - 5500 doses

(b) Hold Over Time: (at + 43°C ambient temperature, if the cold box is not opened at all).

- 5 - 8 liters = more than 90 hours
- 20 - 22 liters = Six days

Use of Cold Box:



a. Collect and transport large quantities of vaccines

b. Store vaccines for transfer up to five days
   - for outreach sessions
   - during power cut for longer days
   - breakdown of ILR
   - Defrosting & cleaning of ILR

c. Used for storing frozen icepacks
   - In emergency
   - before campaigns

Packing of Cold Box:

- Place conditioned icepacks at the bottom and sides of the cold box
- Stack vaccine and diluents in the box.
- Place a thermometer inside the cold box.
- To prevent freezing

✓ Do not use frozen ice packs for packing.

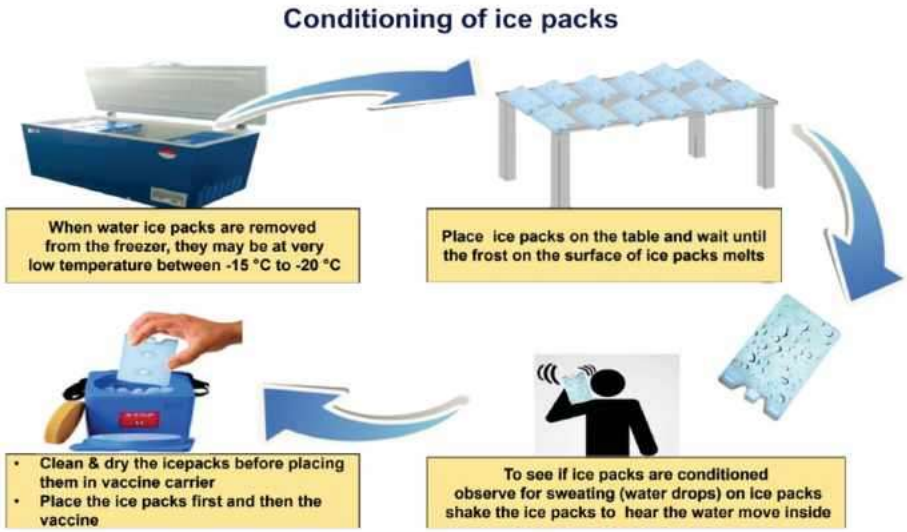
✓ Avoid direct contact of freeze sensitive vaccines with the ice pack by placing packing material or OPV/ BCG/ Measles/ RVV/ JE vaccines around.
- Place one row of ice packs on the vaccines and close the lid.
- Do not remove the rubber seal of the Cold Box.
- Do not place any weight or other cold boxes on the lid.
- Do not open the lid when not required.

2. Vaccine Carrier:



- Capacity: 1.7 litres
- Can carry 16 - 20 vials of vaccine and diluents with 4 conditioned ice packs.

Conditioning of Ice Pack:



Vaccine Safety:

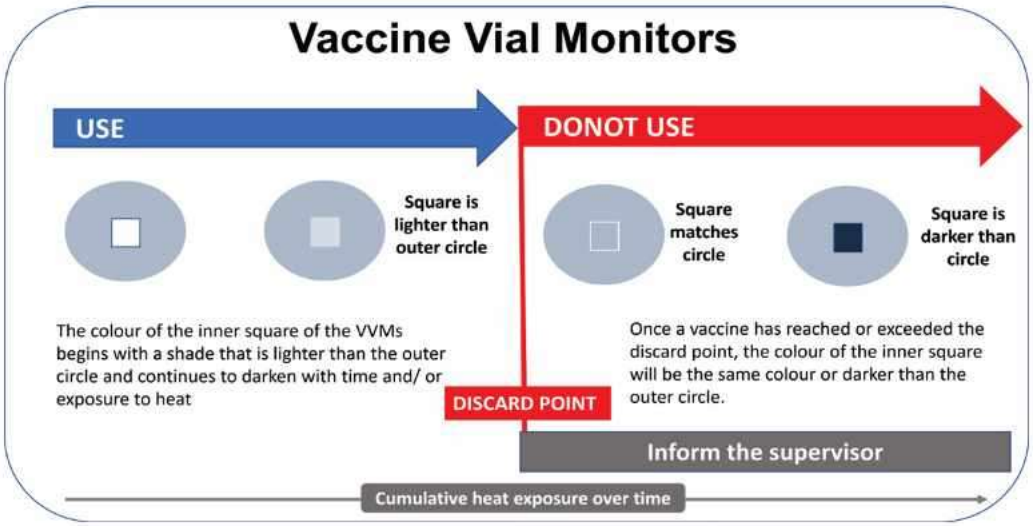
Vaccines lose their potency due to exposure to:

- **Heat (Temp above +8^0 C)** – all vaccines under UIP
- **Cold (Temperature below + 2^0 C)** – Hep. B, Pentavalent, IPV, PCV, DPT and TD
- **Light** – BCG & MR.

Checking of Heat Damage- Vaccine Vial Monitor (VVM)

- The Vaccine Vial Monitor (VVM) is a label containing heat-sensitive material, which is placed on the vaccine vial to register cumulative heat exposure between the time period of exit from the manufacturing site till the time of use
- The combined effects of time and temperature cause the inner square of the VVM to darken gradually and irreversibly
- The types of VVM used depend on heat sensitivity of vaccines
- VVM does not directly measure vaccine potency, but it gives information about the main factor that affects potency, i.e. heat exposure over a period of time
- The VVM does not, however, measure exposure to freezing that contributes to the degradation of freeze-sensitive vaccines

Vaccine Vial Monitor



Hold the vial as shown in the picture. The background should be covered by palm and the direction of light should fall on the VVM.

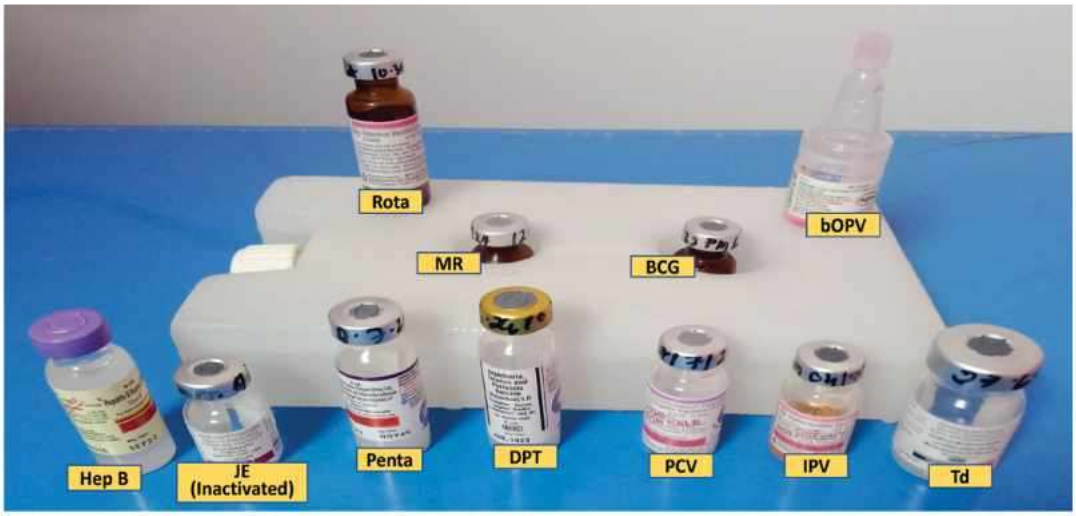
Holding of vial for checking VVM:



Checking vaccines for cold damage (freezing):

DPT, Td, IPV, HepB, PCV and Penta vaccines lose their potency if frozen. Moreover, the risk of adverse events following immunization, such as sterile abscesses, may increase. Discard the vial if it is frozen or it contains floccules after shaking. Shake Test is not applicable for IPV.

Dos	Don'ts
• Keep all vaccines in ILR at +2°C to +8°C at PHC • Use diluent provided by the manufacturer with the vaccine • Keep diluents in ILR at +2°C to +8°C at least 24 hours before use • Use Rotavirus vaccine (RVV with VVM on cap/stem), reconstituted BCG, JE (live) and MR **within 4 hours** • Discard **all** damaged vials for disinfection and disposal	• Do not keep in the cold-chain: o Expired vials, o Frozen vials or o Vials with VVM beyond the end o point • Do not use Rotavirus vaccines (RVV with VVM on cap/ stem), or re- constituted BCG, JE (live) and MR vaccines **after 4 hours**



Placement of vaccines when at RI session site:

*JE (Live) should be kept on the icepack

5.6 U-WIN - Digital platform for data recording & reporting

Click to Protect Lives

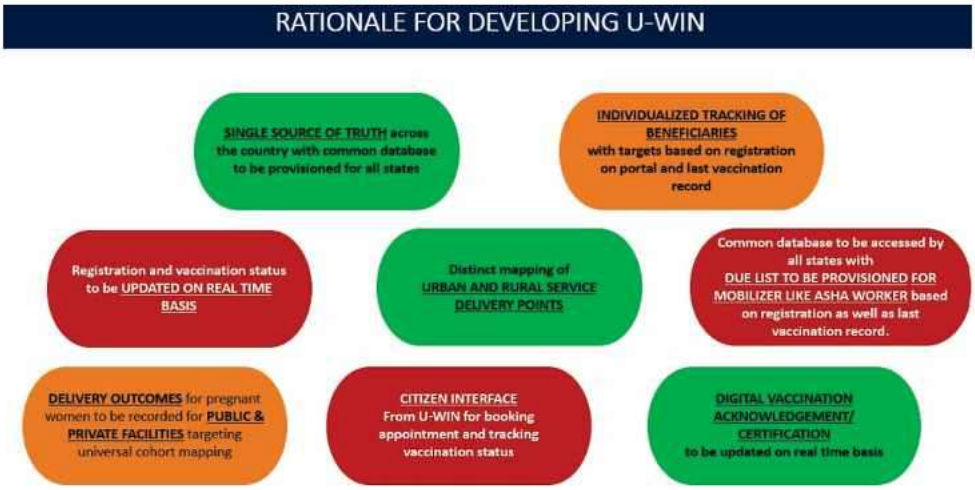
Introduction on U-WIN

MoHFW has rolled out Electronic Vaccine Intelligence Network called e-VIN to provide real time information on vaccine stock & storage temperature across all cold chain points in the country. Based on e-VIN, Co-WIN was rolled out for beneficiary management, recording and reporting of COVID-19 vaccination. After the success of Co-WIN Platform, it was decided to have similar software-based tool named "U-WIN" (Winning with Universal Immunization Programme) for recording & reporting of each and every vaccination provided under Universal Immunization Programme (UIP). All efforts should be made to identify and register all the beneficiaries who are not registered in U-WIN.

Key features of U-WIN

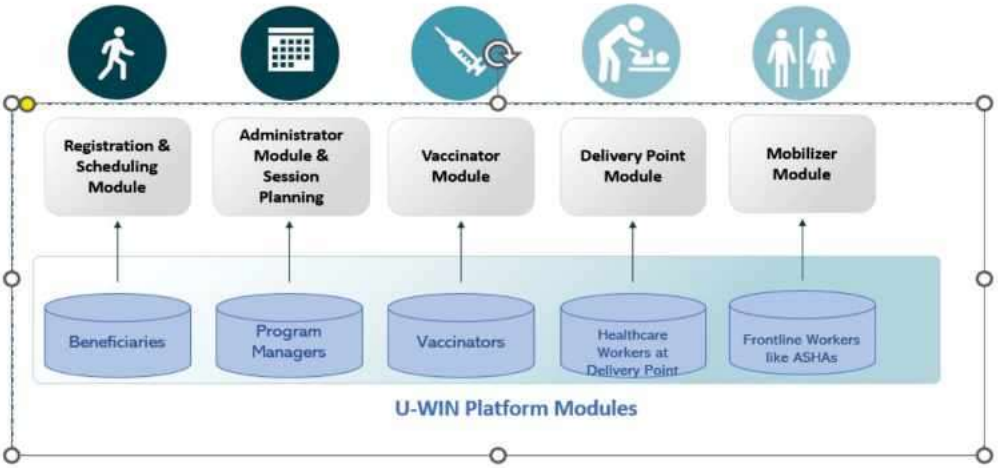
1. Establishing single source of truth for immunization data
2. Near real time availability of vaccination data
3. QR code-based e-Vaccination certificates

4. Individualized antigen and dose wise tracking of beneficiaries
5. Automated reminders through SMS for due vaccine doses
6. Universal search - mitigating inter-state and intra-state migration issue
7. All planned vaccination sessions to be published in U-WIN
8. Citizen interface for self-registration, booking online vaccination appointment along with provision for walk-in registration
9. Creation of ABHA and Child ABHA can also be done through U-W
10. Engagement of private sector immunization service providers.



Modules of U-WIN

U-WIN is a web and mobile-based application. It has the following modules which are accessed through OTP-based text SMS authentication.



A. Registration and scheduling module

- This is the only module which is available in public domain to be used by the beneficiaries
- Registration can be done online for pregnant women and children.
- Pregnant women can do self-registration and they can also be registered by tagging Co-WIN database.
- Children/infant can be registered through linkage with Mother/Father/Guardian.

- Beneficiary can book an appointment for vaccination and generate appointment slips
- Download Vaccination Acknowledgement/ QR-based vaccination certificate.

B. Administrator module

- This module will be used by state, district, subdistrict and health facility user
- Creation of all Health Facilities, Sub-Centers and RI Session Sites Mapping of Block/Village/ULB/Ward (LGD and non-LGD*)
- Tag as newborn vaccination site, whether has SCs/ ANM area under it
- Integration with other portals to ensure interoperability and unified database – e-VIN, ABDM, NiN, RCH, POSHAN tracker.
- U-WIN is compliant with ABDM under which health facility registry (HFR) ID for health facilities and Health Professional Registry (HPR) ID for health workers are to be made and linked with U-WIN.
- Adding and tagging of Human Resource involved in Immunization service delivery (U-WIN users) – State/District/Sub-district Administrators, Health Facilities and Newborn vaccination site managers, Vaccinators, Mobilizers
- Session Planning & Management – Creation and publishing of RI Sessions

non-LGD areas include health blocks, health villages, wards etc

Session Planning and Management by Health Facility Manager:

- Health Facility Manager will be responsible for the Creation and publishing of RI Sessions.
- The UIP Vaccination Session Sites tab will be used for creating sessions while the UIP Vaccination Sessions tab will be used for viewing the ongoing, scheduled, canceled, and completed vaccination sessions. Session type to be selected as RI session, select the Dates from the calendar for the planned upcoming sessions - dates can be entered for up to next 3 months. The dates on which session have already been created and published will be highlighted and non-selectable in the calendar menu. Next select the Start time and End time for the session and the Total Beneficiary Capacity for the planned session.

All sessions that were planned through microplanning process needs to be created and published in U-WIN. Sessions once created and published in U-WIN can be rescheduled but cannot be cancelled.

- **C. Vaccinator Module**

The Vaccinator module will be used to register and record the vaccination services provided at the session for beneficiaries.

- **Conducting Vaccination Sessions:** Once the health care worker starts the session s/he will be able to see the list of the beneficiaries who have booked online appointments and will also be able to do on-site registration of beneficiaries (walk-in).
- **Key steps would include –**
  1. Identity verification
  2. Update previous Vaccination History based on available vaccination records
  3. Record vaccine administered in the present visit

- **Generate digital e-Vaccination certificate**
- Reporting of AEFI can be done

ASHA Management: ANM should add ASHA workers or mobilizers and map the villages/wards/ mohalla etc with them.

- ANM will be able to see the list of all beneficiaries (both vaccinated and due) for her catchment area.
- **Pre-registration of beneficiaries by Vaccinators:** based on the information collected by the ASHAs/Other mobilizers during the headcount survey, there will be a provision where the Vaccinators (mainly ANMs) to collect this data from the ASHAs/other mobilizers in the hard copy format and pre-register the beneficiaries and update their previous vaccination history in the Vaccinator module.

D. Newborn vaccination module

- All birth dose vaccination details will be recorded in this module by staff nurse/ANM of the delivery point.
- The details of the pregnant woman with regards to ANC and pregnancy outcome, registration of newborn will be primarily recorded through RCH 2.0. Till the time RCH 2.0 is rolled out U-WIN will be capturing these data.

E. Mobilizer Module

- This module will be used by ASHA/ mobilizers/ link worker etc. Once the session has been created in U-WIN, the mobilizers will be able to see the detail of the sessions through this module.
- The mobilizer will be able to view the list of vaccinated and due beneficiaries in their catchment area.
- For the eligible beneficiaries not registered (as per paper-based duelist), mobilizer can preregister the beneficiary or facilitate registration on session site by ANM or guiding beneficiary to register by self-registration portal.

ASHA/ mobilizer can also download e-vaccination certificate for the vaccinated beneficiaries.

AEFI Reporting on UWIN

- There will be a provision for reporting of Adverse Events Following Immunization (AEFIs) from U-WIN and sharing of data and information between U-WIN and SAFE-VAC.
- Vaccinators can view the list of beneficiaries in vaccinator module of the U-WIN. From the list, vaccinator can report AEFI of identified beneficiary through a button "Report AEFI" against each beneficiary. Some of the data points in the AEFI reporting form will be auto populated by system and others will have to be filled in by the vaccinator. Similar provision will be made District immunization Officers (DIO) at the district level.

Vaccination data of beneficiary should be uploaded on the same day of vaccination on real time basis by vaccinator. If due to any reason it is not possible for the vaccinator to upload data in U-WIN on the same day of vaccination, it can be uploaded next day till 5 PM only if the session is not closed in U-WIN. In all cases efforts should be made to upload vaccination data in U-WIN on the same day of vaccination.

Self-Registration through UWIN

Self-registration on the UWIN platform allows eligible beneficiaries to register themselves for health services, including immunization, by using their mobile number and Aadhaar or other valid ID. This feature enhances accessibility and streamlines the registration process, reducing the dependency on manual data entry by health workers.



5.7 ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)

An adverse event following immunization (AEFI) is any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavorable or unintended disease, symptom, sign or abnormal laboratory finding.

Types of AEFI

Based specifically on the severity, cause and frequency, vaccine reactions or AEFIs may be broadly grouped as under:

(I) AEFIs by severity of the event:

(a) Minor reactions (common)

(b) Serious reactions

(c) Severe vaccine reactions (rare)

(ii) Cause-specific AEFIs:

(a) Vaccine product-related reactions

(b) Vaccine quality defect-related reactions

(c) Immunization error-related reactions

(d) Immunization-triggered stress response (ITSR)

(e) Coincidental events

AEFI by Severity of Event

Common, Minor Vaccine Reactions

Most vaccine reactions are minor and self-limiting. The purpose of a vaccine is to induce immunity by causing the recipient's immune system to react to the vaccine. Local reaction, fever and systemic symptoms can result as a part of the immune response. In addition, some of the vaccine's components (e.g. adjuvant, stabilizers or preservatives) can lead to reactions. An effective and safe vaccine produces the best possible immunity and reduces these reactions to a minimum. The frequency of non-serious reactions likely to be observed with the commonly used vaccines are :-

Vaccine	Local Reactions	Systemic Reactions	
	Pain, Swelling, Redness	Fever> -	Irritability,Malaiseand Systemic Symptoms
BCG	90%– 95%		
Hepatitis B	Adults upto 15%, Children upto 5%	1– 6%	–
Hib	5– 15%	2%– 10%	
Measles/MR/MMR	~10%	5%– 15%	5% (Rash)
OPV	None	Less than 1%	Less than 1%
Pertussis(DTwP/Penta)	upto 50%	upto 50%	upto 55%
Pneumococcal (PCV) conjugate	~20%	~20%	~20%
PV	~30%		
Tetanus/DT/DTaP/Td	~10%	~10%	~25
JE(liveattenuated)	5– 7%		1%

Serious and Severe Vaccine Reactions

Severe Reactions

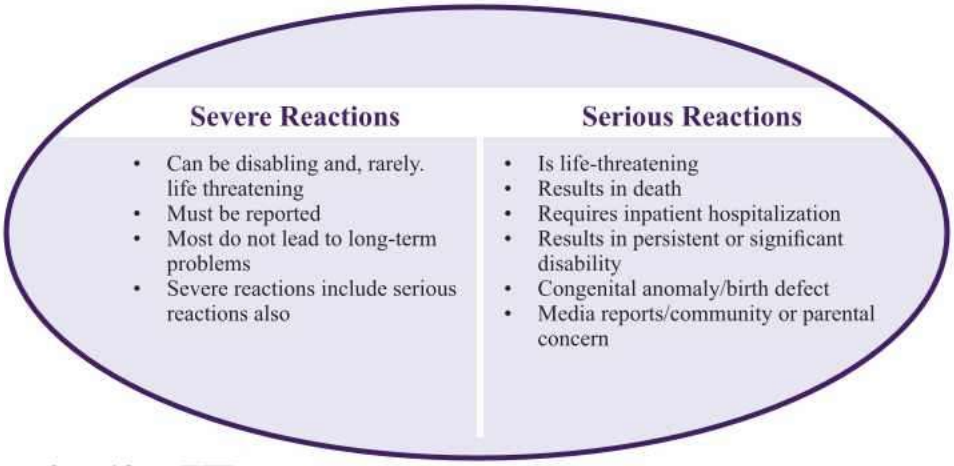
"Severe" reaction is a broader term, not used for regulatory purposes and includes the reactions that are higher in severity than minor reactions but does not necessarily lead to hospitalisation. Severe reactions may be disabling, but usually do not result in long-term problems. The event itself, however, may be of relatively minor medical significance. For example, fever is a common and relatively minor medical event, but according to severity, it can be described as low- grade or high-

grade fever. Anaphylaxis is always a serious event and life-threatening, even if managed as an out-patient with quick recovery. Most of the rare vaccine reactions (e.g. seizures, thrombocytopenia, HHEs, persistent inconsolable screaming) do not lead to long- term problems. These may fall in the category of "severe" if managed at out-patient level. All "serious" reactions are "severe", while vice versa is not true.

Serious Reactions

An AEFI will be considered 'serious', if it meets any of the following criteria: results in death, is life-threatening, requires in-patient hospitalization or prolongation of existing hospitalization, results in persistent or significant disability/ incapacity, is a congenital anomaly/birth defect, requires intervention to prevent permanent impairment or damage. The term "serious" adverse event is used for regulatory purposes.

Figure: Serious and Severe Vaccine Reactions



Cause-Specific AEFIs

Table : Cause-Specific Categorization of AEFI

Cause-specific AEFI	Definition
Vaccine product-related reaction	An event that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product.
Vaccine quality defect-related reaction	An event that is caused or precipitated by a vaccine that is due to one or more quality defects of the vaccine product, including its administration device as provided by the manufacturer
Immunization error-related reaction (formerly "programme error")	An event that is caused by inappropriate vaccine handling, prescribing or administration and thus by its nature is preventable.
Immunization triggered stress response (earlier Immunization anxiety-related reaction)	An event arising from anxiety about the immunization.
Coincidental event	An event that is caused by something other than the vaccine product, immunization error or immunization anxiety.

5.8 ROUTINE IMMUNIZATION MICROPLANNING

Microplanning is the backbone of effective Routine Immunization (RI). It ensures that no child or pregnant woman is missed, vaccines and logistics are adequately planned, and services reach the most vulnerable.

Objectives of Microplanning

- To identify and map all beneficiaries (children 0–5 years and pregnant women)
- To list all immunization session sites (fixed, outreach, mobile)
- To plan session dates, logistics, and human resources
- To ensure community mobilization and supervision
- To monitor immunization coverage and take corrective action

Steps of Microplanning

Step 1: Mapping of Area

- List all villages, hamlets, wards under each Sub-centre/Urban Health Post.
- Identify hard-to-reach, tribal, slum, or migratory population clusters.

Step 2: Estimate the Target Population

- Use HMIS/RCH/UWIN data, survey data, and local records.

Estimate:

- Children 0–1 year
- Children 1–2 years
- Children 2–5 years (for booster doses)
- Adolescent- 10 years and 16 years for Td 10 and Td 16
- Pregnant women

Step 3: Identify and List Session Sites

- Categorize into Fixed, Outreach, and Mobile sessions.
- Record location, accessibility, and population to be covered.
- Use an RI Session Plan format with the day of the week and frequency (weekly/bi-weekly/monthly).

Step 4: Logistics Planning

- Calculate vaccine requirements for each session based on the expected number of beneficiaries.

Ensure availability of:

- Vaccines (as per National Immunization Schedule)
- AD syringes, hub cutters, vaccine carriers with ice packs
- RI cards, registers, reporting formats

Calculation of target beneficiaries: annual and monthly target

Annual target:

Annual target of PW = Actual number of PW as per head count survey X 2

Annual target of infants = actual number of infants (0-1 yrs) as per head count survey

Monthly Target:

Monthly target of PW = Annual target pregnant women divided by 12

Monthly target of children = Annual infant target divided by 12**Frequency of outreach RI sessions depending on injection load:**

1 to 25 injections – 1 session every alternate month

26 to 50 injections – 1 session every month

51 to 100 injections – 2 sessions every month

For very hard-to-reach areas with small population, plan for at least one session every quarter for a minimum of 4 sessions a year **Calculating injection load (for determining the frequency of RI sessions)**

This calculation is to be used only as a planning tool for session frequency and not for estimation of vaccines or logistics.

Firstly, the total number of injections needed per beneficiary are determined. This gives a multiplying factor of **14 for an infant and 2 for a pregnant woman.**

For a child:

- BCG – 1 injection
- Pentavalent – 3 injections
- fIPV – 3 injections
- MR Vaccine – 2 injections
- PCV – 3 injections
- DPT – 2 booster injections

For a pregnant woman:

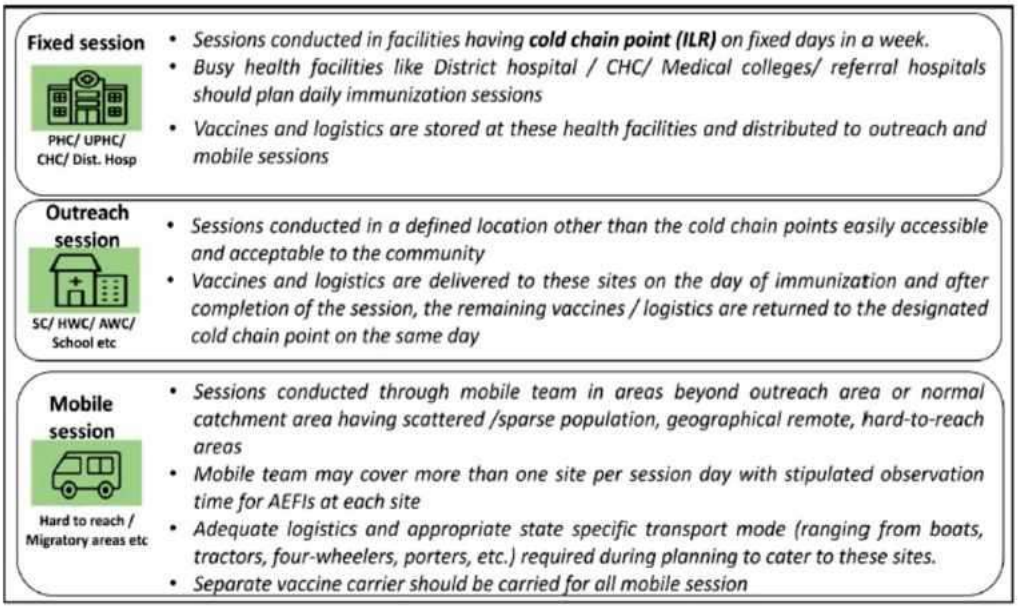
- Td – 2 injections (for pregnant women)

For districts where JE vaccine is included in the RI schedule **add 2** to the above number, giving the multiplying factor of **16 for an infant and 2 for a pregnant woman.**

Injection load:

In non-JE district: Injection load = (Monthly PW x 2) + (Monthly infant x 14)

In JE district: Injection load = (Monthly PW x 2) + (Monthly infant x 16)



It is very important to calculate the vaccine and logistic requirement for each session site considering the vaccine wastage. The wastage multiplication factor (WMF) for each vaccine and logistics is utilized for calculating the exact requirement. The details about WMF is mentioned below.

Wastage multiplication factor (WMF) –

It is calculated using the following equation:

100 divided by [100 – (Permissible wastage %)]

E.g. if wastage is 10%, 100/ [100-10] 100/90 = 1.11

Permissible wastage percentage

Vaccine	Maximum permissible wastage %	WMF
Hep B	10	1.11
BCG	50	2.0
OPV	10	1.11
Rotavirus	10	1.11
fIPV	10	1.11
PCV	10	1.11
Pentavalent	10	1.11
MR	25	1.33
JE	10	1.11
DPT	10	1.11
Td	10	1.11
Syringes	10	1.11

5.9 SAFE INJECTION PRACTICE AND WASTE DISPOSAL:

Large number of injection procedures are undertaken in lakhs of vaccination sessions across the country every year. Unsafe injection practices can harm the recipients of the injection, the health workers and the community resulting in potentially life threatening infections such as HIV/AIDS, Hepatitis B and C, etc. To ensure safe injection practices, continuous supply of injection safety equipment (AD syringes, reconstitution syringes, hub cutters and waste disposal bags) is ensured.

Training is conducted and supported by job aids, on job training (supportive supervision). Disposal of immunization waste is strictly as per Central Pollution Control Board (CPCB) guidelines for biomedical waste disposal. The principles followed are segregation of waste at source (at the session site), transportation to the PHC or CHC, treatment of sharps and potentially bio-hazardous plastic waste, disposal of sharps in sharp pits and treated plastic waste through proper recycling. The states provide funds to procure hub cutters, black and red plastic bags and construction of sharp pits in PHCs and CHCs.



5.10 LET SUM UP:

In this unit you have learnt about the details of universal immunization programme, open vial policy, cold chain system, UWIN, AEFI and microplanning. While conducting immunization sessions in the community you may asked many questions and queries related to immunization, its side effects, dose, normal reaction etc. The focus on vaccines under UIP with frequent asked questions will acquaint you with knowledge to answer the queries of community and be vigilant while administration of various vaccines.

5.11 REFERENCE:

1. Routine Immunization Manual for Medical Officers- 2024 by MoHFW
2. K.Park, Preventive and Social Medicine, 23rd edition, M/s Banarsidas, Bhanot Publisher, 2015 (689,803-805)
3. James F. McKenzie, Robert R. Pinger & Jerome E.Kotecki, An introduction to Community Health, 4th edition, Jones & Bartlett Publisher (556-559)
4. Sridhar Rao, Community Health Nursing, 1st edition, AITBS publisher, 2014, India (357-377)
5. AH Suryankantha, Community Medicine with recent advances, 3rd edition, 2014, Jaypee Brothers Medical Publisher (213-214)
6. Assessment of injection practices 2012.

NOTE

Certificate in Community Health for Nurses (BPCCHN)
Theory Course

CHO - 0002 Primary Health Care in Common Conditions

Block-1 : Management of Common Conditions and Emergencies including First Aid

Unit 1 : Common Conditions – 1 Gastro Intestinal System
Unit 2 : Common Conditions – 2 Respiratory System
Unit 3 : Common Conditions – 3 Heart, Urinary System and Blood Disorders
Unit 4 : Common Conditions – 4 Eye, Ear, Nose and Throat
Unit 5 : First Aid in Common Emergency Conditions
Unit 6 : Disaster Management

Block – 2 : Maternal Health

Unit 1 : Introduction to RMNCAH+N Programme
Unit 2 : Antenatal Care
Unit 3 : Intranatal Care
Unit 4 : Early Identification, Management and Referral of Complications
Unit 5 : Postpartum Care

Block – 3 : Reproductive Health and Adolescent Health

Unit 1 : Gynecological Conditions
Unit 2 : Family Planning Methods, Spacing Techniques and Counseling
Unit 3 : Abortion Methods and MTP Act
Unit 4 : Counselling in Reproductive and Sexual Health Including Problems of Adolescents
Unit 5 : Management of Teenage Pregnancy

Block – 4 : Newborn and Child Health Care

Unit 1 : Essential Care of Newborn at Birth
Unit 2 : Management of Common Neonatal and Child Health Problems
Unit 3 : Integrated Management of Neonatal and Childhood Illness
Unit 4 : Introduction to Rashtriya Bal Swasthiya Karyakaram
Unit 5 : Universal Immunisation Programme (UIP)

Block-5 : Overview of Common Surgical Conditions

Unit 1 : Common Surgical Conditions -1
Unit 2 : Common Surgical Conditions -2
Unit 3 : Congenital Malformations
Unit-4 : Screening for Common Cancers

Block – 6 : Essential Drugs

Unit 1 : Essential Drugs – 1
Unit 2 : Essential Drugs – 2
Unit 3 : Essential Drugs – 3