NATIONAL PRIMARY HEALTH CARE DEVELOPMENT AGENCY

MODULE 7: INTEGRATED CHILD CARE SERVICES IN PRIMARY HEALTH CARE

Overview of integrated child care services in primary health care

Session 7.1	Child survival strategies
Session 7.2	Malnutrition in children
Session 7.3	Childhood immunization
Session 7.4	Management of common childhood illness
Session 7.5	Diarrhea in children
Session 7.6	Vaccine-preventable diseases

SESSION 7.1: CHILD SURVIVAL STRATEGIES

Learning objectives

By the end of this session, participants should be able to

1. Define child survival strategies
2. Discuss the components of child survival strategy
3. Explain the evidence-based child survival interventions
4. Identify the barriers preventing children in need from accessing interventions

Session Overview

01 Definition of child survival strategies

02 Components of child survival strategy

03 Evidence based child survival interventions

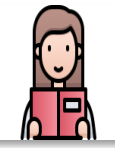
04 Barriers preventing children in need from accessing interventions

Definition of child survival strategies



Child Survival Strategies are the various steps taken to improve the health and well-being of children aged 0-59 months

Components of the child survival strategy

 G	Growth Monitoring/Promotion
 O	Oral Rehydration Therapy
 B	Breast Feeding
 I	Immunization
 F	Female Education
 F	Family Planning
 F	Food Supplementation/Fortification
 E	Environment Sanitation
 E	Essential Drugs
 T	Treatment of Common Childhood Diseases
 H	Health Education

Exercise 1

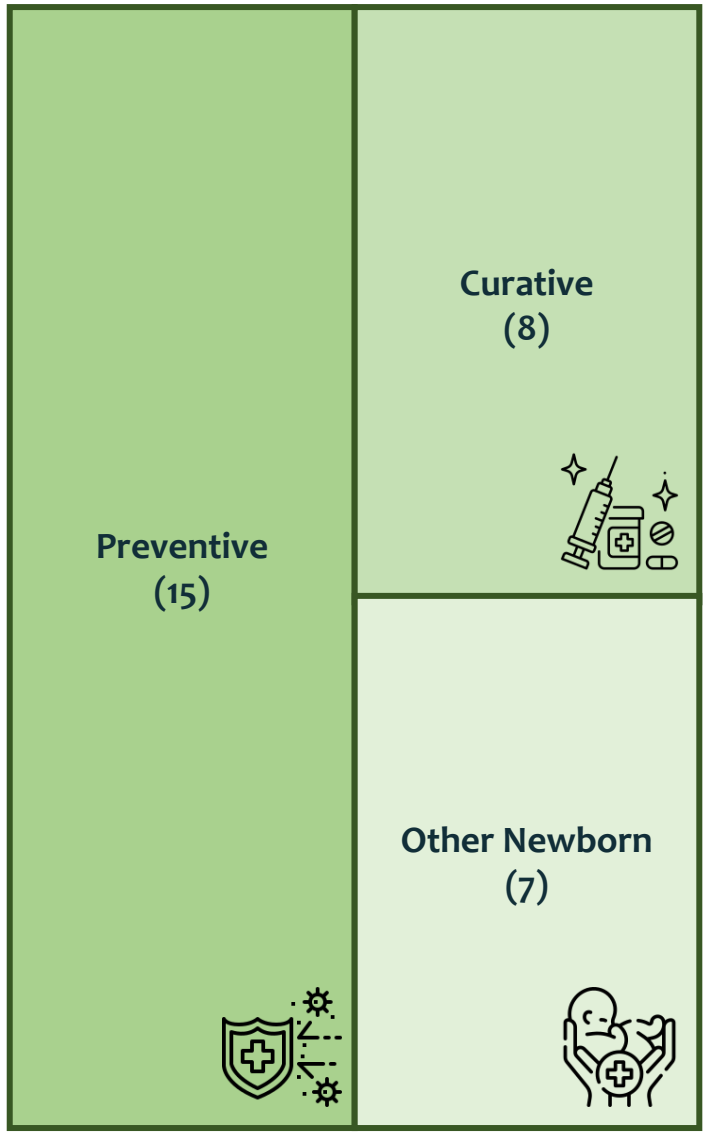


What does **G-O-B-I-F-F-F-E-E-T-H** stand for?

Each participant should say the meaning of one of the alphabets and what he or she understands by that component of child survival strategy

We have identified 30 evidence-based child survival interventions

1	Breastfeeding
2	Insecticide-treated bed nets
3	Complementary Feeding
4	Zinc
5	Clean Delivery
6	Hib Vaccine
7	Water, Sanitation, Hygiene
8	Antenatal steroids
9	Newborn temp. management
10	Vitamin A
11	Tetanus Toxoid
12	Nevirapine/Replacement feeding
13	Antibiotics For PROM
14	Measles Vaccine
15	Antenatal Antimalarial IPT



16	ORT
17	Antibiotics for sepsis
18	Antimalarials
19	Zinc
20	Newborn resuscitator
21	Antibiotics for dysentery
22	Vitamin A
23	Antibiotics for pneumonia
24	Folic acid
25	Interventions to control eclampsia, asymptomatic and breech
26	Antimalarials
27	Labor surveillance
28	Kangaroo mother care
29	Antibiotics for dysentery
30	Vitamin A

Source: Jones G et al.. Lancet 2003, Darmstadt GL et al.. Lancet 2005

Brainstorm



Why are we not reaching the majority of sick children with health interventions?

Barriers to access of health interventions

- Poverty and insufficient resources
- Lack of awareness of availability of service
- Distance to health facility
- Poor quality of service
- Poor attitude of health workers
- Poor health seeking behavior
- Lack of transportation
- Delay in seeking care

Poor programmatic accountability

Key messages



Child survival strategies are essential to help reduce morbidity and mortality of children



Every health worker should be conversant with these strategies

SESSION 7.2 MALNUTRITION IN CHILDREN

Session Overview

01 Malnutrition in Children

02 Infant and Young Child Feeding in Nigeria

03 Recommended Feeding Practices for Infants and Young Children

04 Integrated Management of Acute Malnutrition (IMAM) in Nigeria

00 Refer To Module 8 On Nutrition For This Session

SESSION 7.3: CHILDHOOD IMMUNIZATION

Learning objectives

By the end of this session, participants should be able to

1. Define immunization
2. Know the various types of vaccines and the national schedule for immunization
3. Identify and treat complications/adverse reactions to immunization (AEFI)
4. Contraindications to vaccination

Session Overview

01 Introduction/Definition of immunization

02 Types of vaccines and the national schedule for immunization

03 Identification and treatment of complications/adverse reactions to immunization (AEFI)

04 Contraindications to vaccination

Introduction

Definition

Immunization is the introduction of a vaccine into the body to help it fight infections

There are many of the childhood killer diseases that can be prevented by immunization

It is the most cost-effective way of preventing childhood diseases and has been shown to prevent 2.5million deaths per year

Exercise 2



What are the types of vaccines you know ?

Each participant should say the meaning of one of the alphabets and what he or she understands by that component of child survival strategy

Types of vaccines

Bacterial vaccines	Viral vaccines
Live attenuated vaccine: BCG	**Live attenuated viral vaccines:** Oral poliomyelitis, rubella, measles, mumps and yellow fever vaccines
Killed vaccine: Pertussis, typhoid, cholera	**Inactivated vaccine with antigenic fraction:** hepatitis B
Toxoids: Diphtheria, Tetanus , Tetanus	**Completely inactivated vaccines:** influenza, injectable poliomyelitis, rabies
Polysaccharide vaccines: meningococcal A + C, Pneumococcal	

Routine immunization schedule in Nigeria

Routine immunization is vaccination that is provided to eligible populations on scheduled dates, as stated in the immunization policy

In Nigeria, routine immunization is provided to infants, children under 23 months of age



National schedule for Immunization

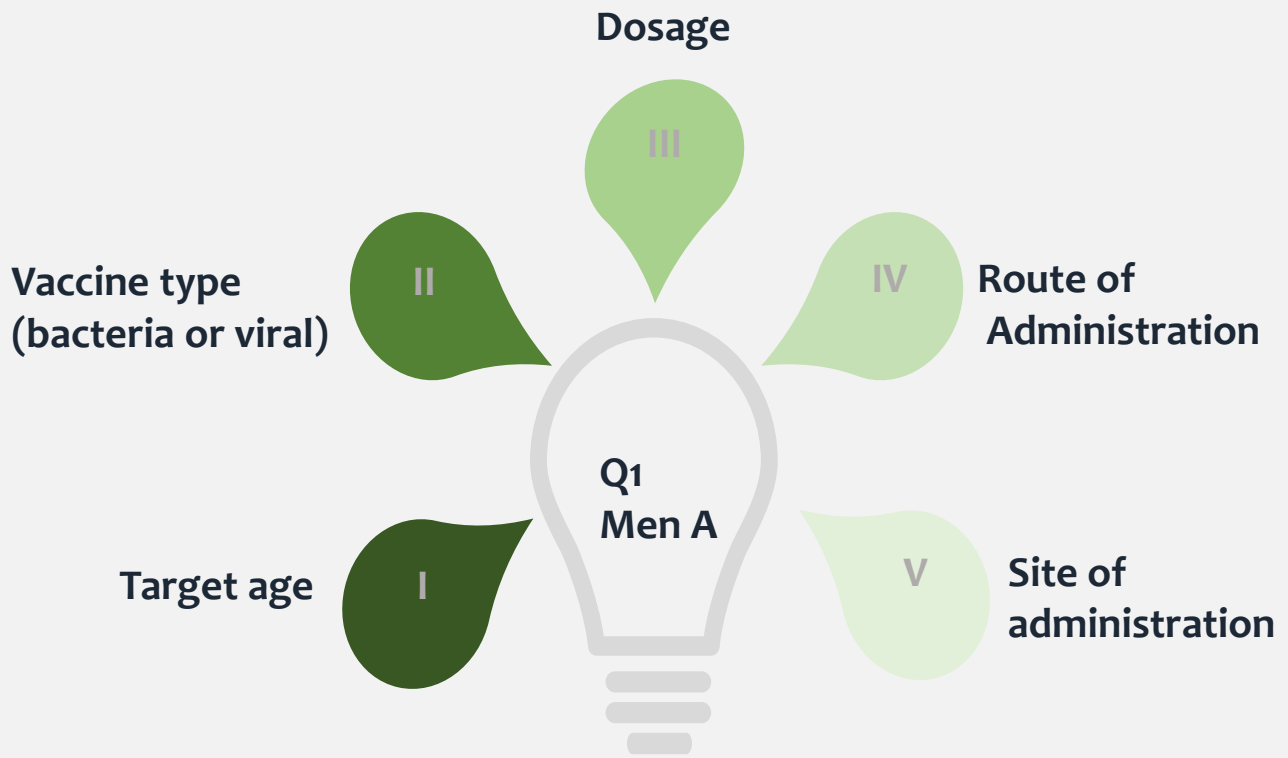
Contact	Minimum Target Age of Child	Type of Vaccine	Dosage	Route of Administration	Site
1st	at birth	BCG	0.05ml	intra-dermal	Left upper arm
		*OPV 0	2 drops	oral	mouth
		**Hep B0	0.5ml	intra-muscular	antero-lateral aspect of the left thigh
2nd	6 weeks of age	Pentavalent 1	0.5ml	intra-muscular	antero-lateral aspect of Left thigh
		OPV 1	2 drops	oral	mouth
		PCV1	0.5ml	Intra-muscular	antero-lateral aspect of right thigh
		Rota 1	1ml	oral	mouth
		IPV1	0.5ml	Intra-muscular	antero-lateral aspect of the right thigh (2.5cm apart from PCV)
3rd	10 weeks of age	Pentavalent 2	0.5ml	intra-muscular	antero-lateral aspect of Left thigh
		OPV 2	2 drops	oral	mouth
		PCV2	0.5ml	Intra-muscular	antero-lateral aspect of right thigh
		Rota 2	1ml	oral	mouth
4th	14 weeks of age	Pentavalent 3	0.5ml	intra-muscular	antero-lateral aspect of the left thigh
		OPV 3	2 drops	oral	mouth
		IPV 2	0.5ml	Intra-muscular	antero-lateral aspect of the right thigh (2.5cm apart from PCV)
		PCV3	0.5ml	Intra-muscular	antero-lateral aspect of the right thigh
		Rota 3	1ml	oral	mouth
	6 months	Vit A 1st dose	100,000 IU	oral	mouth
5th	9 months	Measles 1st dose	0.5ml	sub-cutaneous	left upper arm
		Yellow fever	0.5ml	sub-cutaneous	Right upper arm
		Men A	0.5ml	intra-muscular	antero-lateral aspect of the left thigh
	12 months	Vit. A 2nd dose	200,000 IU	oral	mouth
	15 months	Measles 2nd dose	0.5ml	sub-cutaneous	left upper arm
	*** 9 yrs	HPV	0.5ml	Intra-muscular	deltoid muscle (left upper arm)
	5 months/TBD	***Malaria & Typhoid			
	18 yrs & above	COVID-19	0.5ml	Intra-muscular	deltoid muscle (upper arm)

- OPV 0 must be given within 2 wks of birth
- *HebB0 must be given preferably at birth or within 24hrs of birth

BCG should be given within 2 wks of birth but can be given up to 11 months of age
***HPV introduced to girls age 9 - 14 yrs in the yr of intro (2023/2024), girls age 9 yrs only from 2025, gender neutral vaccination (boys and girls 9 yrs) will tentatively start from 2029 ***
4-dose regimen Malaria vaccine approved & Typhoid vaccine application is in process

Class Exercise on National Schedule for Immunization

Each participant should be provided with the answer sheet for the exercise and is to go round the hall and answer the questions pasted on the wall in no particular order. For example:



Routes of Vaccine Administration

Right

- *Polio (**Oral**)*
- *Vitamin A (**Oral**)*
- *Rota (**Oral**)*

*Yellow Fever (**Subcutaneous**)*

*PCV-10 (**Intramuscular**)*

*IPV-(**Intramuscular**) 25cms apart*



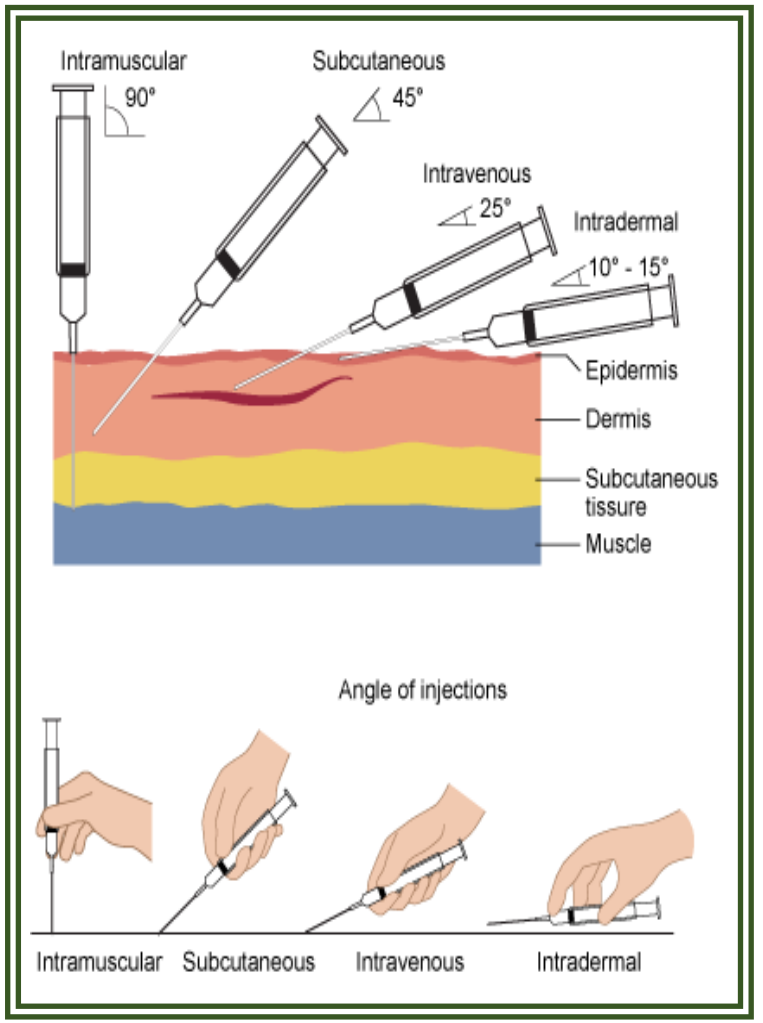
Left

*BCG (**Intradermal**)*

*Measles (**Subcutaneous**)*

*Penta (**Intramuscular**)*

*Hepatitis B (at birth) (**Intramuscular**)*



Routes of Vaccine Administration



INTRAMUSCULAR



SUBCUTANEOUS



INTRADERMAL

Practical Demonstrations on Routes of Vaccine Administration

Participants should be provided with oranges, needles and syringes and are to demonstrate how to administer vaccine via the following routes:



1. **Intradermal**
2. **Subcutaneous**
3. **Intramuscular**

Contraindications to vaccination

1. Severe local or general reaction to a previous dose

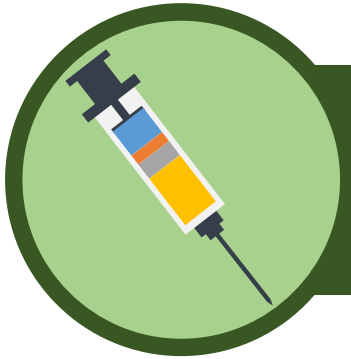
2. During pregnancy and in those who are on systemic steroid therapy or are immunosuppressed for any reason

3. Vaccines should not be given if the child has an acute febrile illness. They can, however, be given once the child is well again even if a course of antibiotics is still ongoing

Not contraindications to vaccines

- Previous history of infection
- Contacts of pregnant women
- Neonatal jaundice
- Sibling of immune suppressed patient
- Antibiotic therapy
- Allergic history, such as allergy to egg proteins (except for influenza vaccine)
- Stable neurological condition
- Breast feeding
- Prematurity

Adverse Events following Immunization (AEFI)



AEFI is any unwanted occurrence that follows immunisation and may not necessarily be caused by the vaccines



It is important for health workers to educate and counsel mothers that AEFIs are part of the normal happening in response to vaccination



Adverse Events following Immunization (AEFI)



Fever



Anaphylactic shock



Rashes (mild)



Severe rashes (Stephen Johnson Syndrome)



Febrile convulsions



Injection site discomfort
- Soreness
- Redness
- Itching
- Swelling

Brainstorm



How are AEFIs managed?

Managing AEFIs

AEFI		Treatment
	Fever	▪ Don't overdress the infant if they are hot ▪ Give paracetamol
	Rashes (mild)	▪ Topical antibiotics and refer where needed
	Injection site discomfort	▪ Give paracetamol
	Severe rashes (Stephen Johnson Syndrome)	▪ Refer to bigger facility for management
	Anaphylactic shock	▪ Call for help ▪ Resuscitate and refer
	Febrile convulsions	▪ Call for help ▪ Resuscitate and refer

For details on AEFI, please refer to the AEFI module in the Basic Guide for Routine Immunization for Service Providers

Key messages



Immunization is a key strategy for child survival and many of the childhood killer diseases can be prevented by it



All children are expected to receive all the vaccines free before the age of 15 months for maximum benefits



Malnutrition, moderate fever, respiratory infections, common diarrhea or any other benign ailment or the child being on medications (orthodox or herbal) do not constitute contraindications for vaccination

SESSION 7.4: MANAGEMENT OF COMMON CHILDHOOD ILLNESSES

Learning objectives

By the end of this session, participants should be able to

1. Understand the common causes of under-five deaths
2. Diagnose and treat common childhood illnesses
3. Know when to refer severe illness for further management

Session Overview

01 The common causes of under-five deaths

02 Diagnosis and treatment of common childhood illnesses

03 Referral of severe illness for further management

Exercise 3



What are the major causes of under-5 deaths?

Introduction

- Many deaths under-5 could be prevented if very sick children are identified soon after their arrival at the health facilities and the right treatment starts immediately
- The major causes of under-five mortality among children in Nigeria are:
  - Diarrhea
  - Pneumonia
  - Measles
  - Malaria
  - Malnutrition
- These illnesses are well-preventable and treatable

Basic steps in management of common childhood illnesses

Steps	Description
1 Assess the child or young infant and mother	▪ Taking a history and doing physical examination
2 Classify the illness	▪ Using the signs (information) you obtained in assess to select a category or classification for the child's illness ▪ The category or classification corresponds to the severity of the child's illness, as you will learn later
3 Identify treatment	▪ Selecting appropriate treatments for all of the child's classifications
4 Treat the child	▪ Giving treatment in clinic, prescribing drugs or other treatments to be given at home, and also teaching the mother how to carry out the treatments
5 Counsel the mother	▪ Assessing how the child is fed and telling her about the foods and fluids to give the child and when to bring the child back to the clinic
6 Give follow-up care	

Check for general danger signs

Ask	Look
▪ Is the child able to drink or breastfeed?	▪ See if the child is lethargic or unconscious
▪ Does the child vomit everything?	▪ See if the child is convulsing now
▪ Has the child had convulsions? - If the child is convulsing now treat the convulsion immediately with intramuscular paraldehyde	

Note

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

SESSION 7.5: DIARRHOEA DISEASE IN CHILDREN

Learning objectives

By the end of this session, participants should be able to

1. Define diarrhea disease
2. Classify diarrhea
3. Know the causes of diarrhea
4. Know the predisposing factors to diarrhea
5. Identify the clinical features of Diarrhea and its management
6. Demonstrate ORS preparation
7. Prevent diarrhea

Session Overview

01 Definition of diarrhea disease

02 Classification of diarrhea disease

03 Causes of diarrhea

04 Predisposing factors

05 Clinical features and management

06 ORS preparation

07 Prevention of diarrhea

Brainstorm



What is Diarrhea disease?

Definition of diarrhea

Definition

Diarrhea is defined as the passage of three or more loose or watery stools in a 24-hour period

It is common in children and accounts for one out of every five deaths in children under five years of age

- It is also more common in babies under 6 months who are on infant feeding formula or cow's milk
- Frequent passage of normal formed stools is not diarrhea

Classification of diarrhea

Acute diarrhea	Persistent diarrhea	Dysentery
▪ When diarrhea has lasted for less than 14 days ▪ It is a major cause of dehydration leading to deaths among children under five years of age	▪ When diarrhea lasts for 14 days or more.	▪ If there is blood in stool with or without mucus ▪ It is commonly caused by Shigella in children under five years

Causes and Predisposing Factors of Diarrhea

Focus	Description
Most episodes of acute diarrhea are caused by intestinal infection which could be:	▪ **Protozoal:** - Cyclosporidium (5-15%), etc ▪ **Viral:** - Rotavirus (15-25%) ▪ **Bacterial:** - Rotavirus (15-25%) - Enterotoxigenic E coli (10-20%) - Shigella (5-15%) - Campylobacter jejuni (10-15%) - Vibrio cholerae (5-15%)
Predisposing factors	▪ Age: - 6 months to 11 months most vulnerable ▪ Lack/absence of exclusive breastfeeding up to 6 months ▪ Lack of immunization ▪ Use of feeding bottle ▪ Poor personal and environmental hygiene

Clinical Manifestations

- Passage of loose watery stools, which may be accompanied by:
  - Fever
  - Vomiting, or
  - Anorexia
- Every child with diarrhea must be evaluated for dehydration and assessed if there is blood in the stool
- And if diarrhea lasts more than 14 days, assess for persistence of the diarrhea



Clinical Manifestations

Basically, 4 signs are used to assess and classify dehydration:

- State of consciousness: (conscious and alert, irritable and restless, lethargic or unconscious)
- Skin elasticity: when you pinch the skin it retracts rapidly or easily, slowly or very slowly
- Eyes not sunken or deeply sunken
- Thirst: drink normally, drink eagerly or unable to drink or drink with difficulty

There are three classes of dehydration, which are diarrhoea with:

1	No dehydration
2	Some dehydration
3	Severe dehydration



Diarrhoea with no dehydration

All the 4 signs are normal despite the diarrhea:	
1	The child is conscious and alert
2	Drinks normally
3	Skin pinch goes back immediately
4	Eyes not sunken

Management of Diarrhea with no dehydration	
1	Home management
2	Give Lo-ORS = 50~100ml/loose stools
3	Give health education on hygiene and child feeding
4	▪ Give Zinc tab.20mg: 1tab daily for 10 days (for 6months and above) ▪ Zinc tab 10mg should be given for 10days to children from 0 – 6 months.
5	Continue feeding and breastfeed more than usual or give more liquid feeds
6	Inform mother of signs of danger and advice to bring back the child to the clinic. if symptoms persist

Diarrhoea with some dehydration

Note the presence of 2 or more of the following signs:	
1	Skin when pinched retracts slowly (loss of skin turgor)
2	Eyes are sunken
3	Drink water eagerly
4	Irritable or restless

Management of diarrhea with some dehydration	
1	Admit for observation for 4 hours
2	Give Low Osmolar ORS 75 ml/kg body weight for 4 hours or 20ml/ kg/ hours for 4 hours
3	Give Zinc Tablet :20mg daily for 10 days (10mg daily if less than 6 months)
4	Continue breastfeeding or feeding more than usual
5	Reassess the child in 4 hours
6	Give health education on hygiene and feeding

Diarrhoea with severe dehydration

Note the presence of 2 or more of the following signs:	
1	Lethargic or unconscious
2	Sunken eyes
3	Not able to drink or drink poorly
4	Skin pinch goes back very slowly
5	Death can easily occur if no action is taken:

Management of diarrhea with severe dehydration	
1	Refer patient to secondary level for management and continue giving Lo-ORS with Zinc if he tolerates
2	Treatment is by using IV fluids
3	The IV fluid of choice is Ringer Lactate solution or normal saline

Note: All infants with severe diarrhea should be urgently referred to a higher facility



Is an emergency. Refer URGENTLY!!!



Case scenario

Management of diarrhea

Exercise 4



- A 6-month-old child was rushed to the facility with a history of watery stool, child was conscious, alert and eyes were not sunken.
- Child had not been exclusively breastfed

- Classify the diarrhea and dehydration?
- How will you manage?

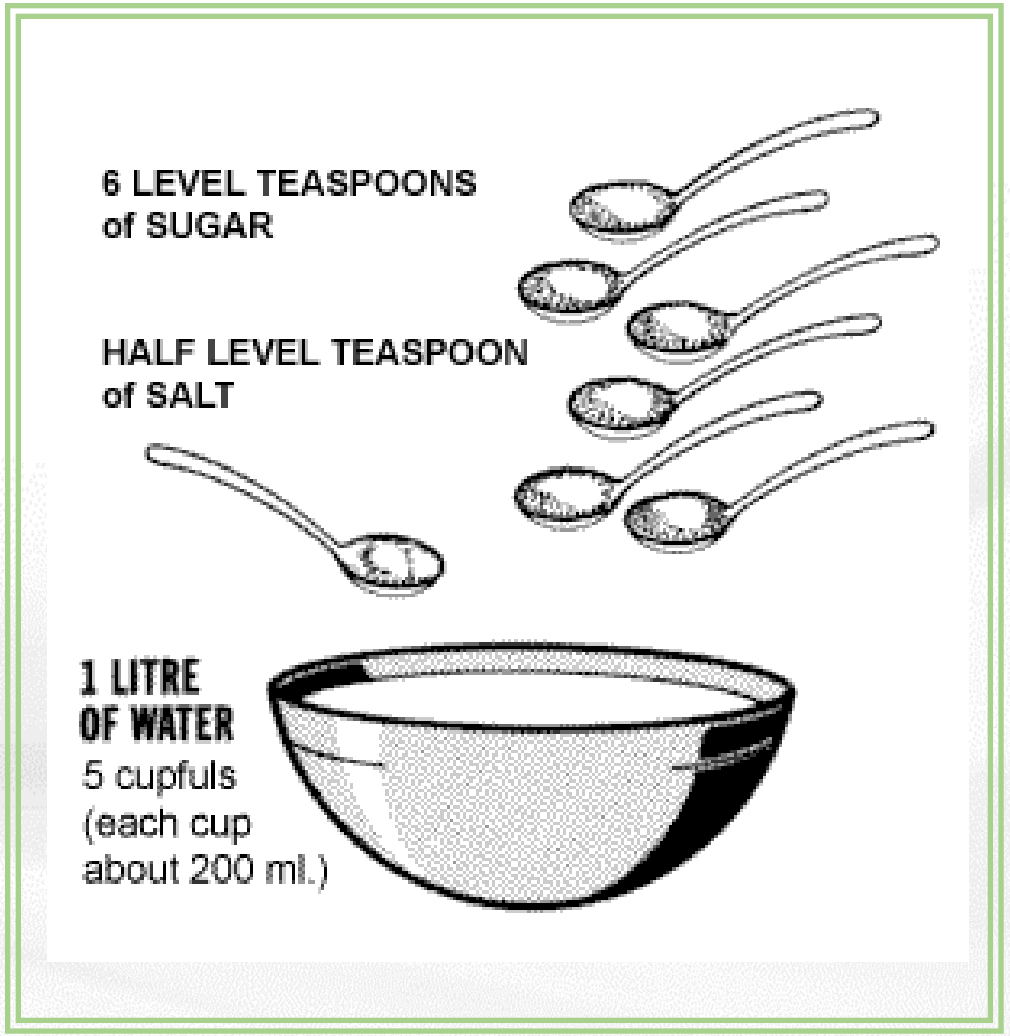
Demonstration of ORS preparation





Recipe for making a 1 lire ORS solution using sugar, salt and water

1. Clean Water – 1 litre – 5 cupful's (each cup about 200 ml.)
2. Sugar – Six level teaspoons
3. Salt – Half level teaspoon
4. Stir the mixture till the sugar dissolves



Home made ORS preparations 1/2



LEVEL TEASPOON



To estimate 1 liter, reduce the water to the 3rd line level on the biggest swan water bottle.

Home made ORS preparations 2/2

Give the child with diarrhea or vomiting a drink made with 6 level teaspoons of sugar and ½ level teaspoon of salt dissolve in 1 liter of clean water.

Be careful to mix the right amounts because too much sugar will make the diarrhea worst and too much salt can be extremely harmful.

Diarrhea usually cures itself in 3 to 4 days with rehydration (drinking lots of fluids/ORS). The real danger is the fluid and nutrient loss from the child's body which can cause dehydration and malnutrition.



Prevention



- Good personal and environmental hygiene
- Advice for exclusive breastfeeding up to 6 months
- Routine immunisation – Rotavirus vaccination, OCV etc
- Adequate sewage disposal
- Avoid and discourage use of feeding bottle

Key messages



Diarrhoea is classified into 3:

- Acute (< 14days)
- Persistent (>14 days)
- Dysentry (presence of blood)



Dehydration is classified into 3:

- No dehydration
- Some dehydration
- Severe dehydration



Refer any suspected case of severe dehydration **IMMEDIATELY**

SESSION 7.6: VACCINE PREVENTABLE DISEASES (VPDs)

Learning objectives

By the end of this session, participants should be able to

1. Mention all the vaccine preventable diseases
2. Define pneumonia and measles
3. Know the causes of pneumonia and measles
4. Understand the signs, symptoms and diagnosis of pneumonia and measles
5. Treat pneumonia and measles and know when to refer
6. Complications of measles

Session Overview

01 The vaccine preventable diseases

02 Definition of pneumonia and measles

03 Causes of pneumonia and measles

04 The signs, symptoms and diagnosis of pneumonia and measles

05 Treat pneumonia and measles and know when to refer

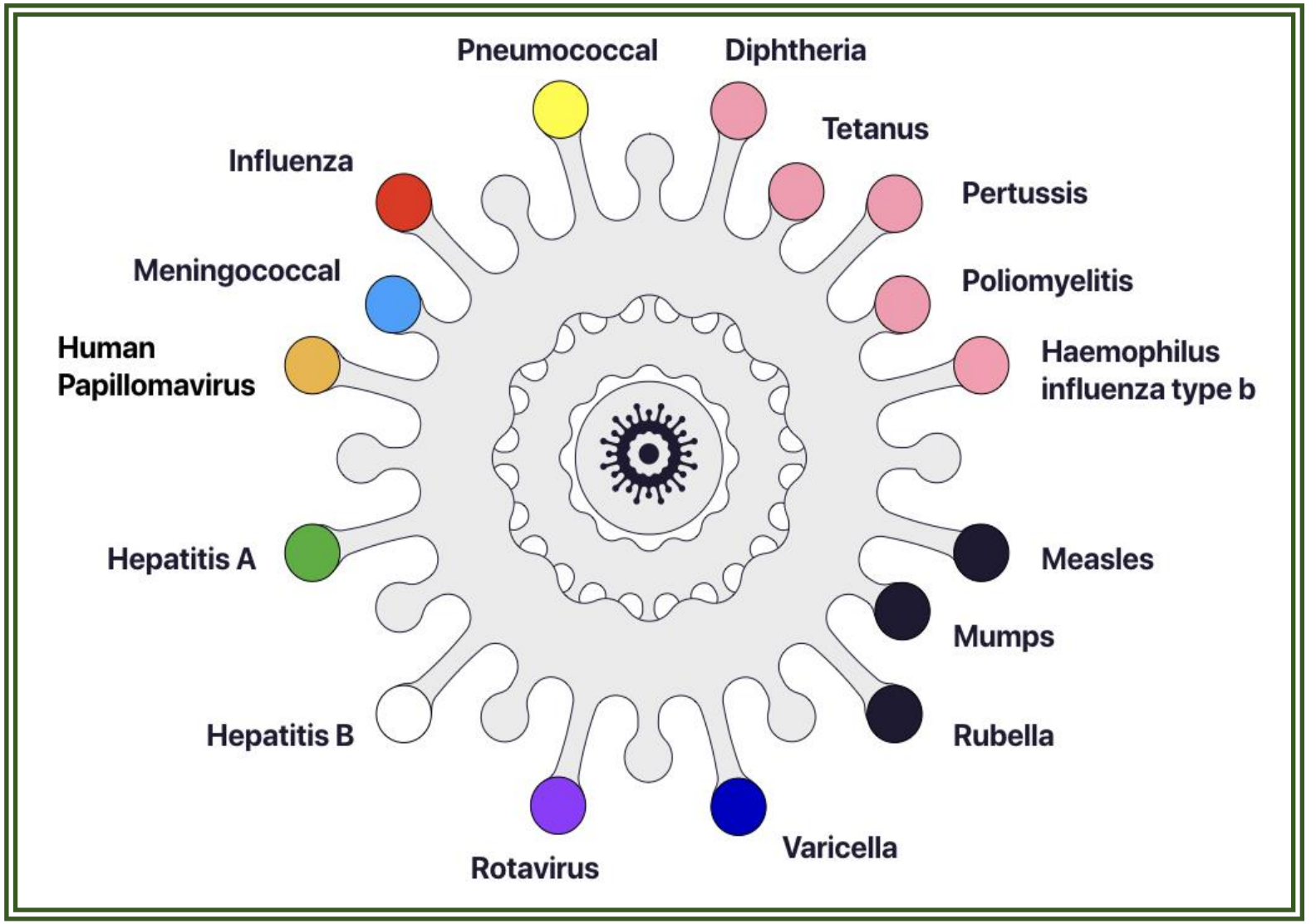
06 Complications of measles

Exercise 5



Each participant should mention one vaccine-preventable diseases he/she knows

Vaccine-preventable diseases



PNEUMONIA

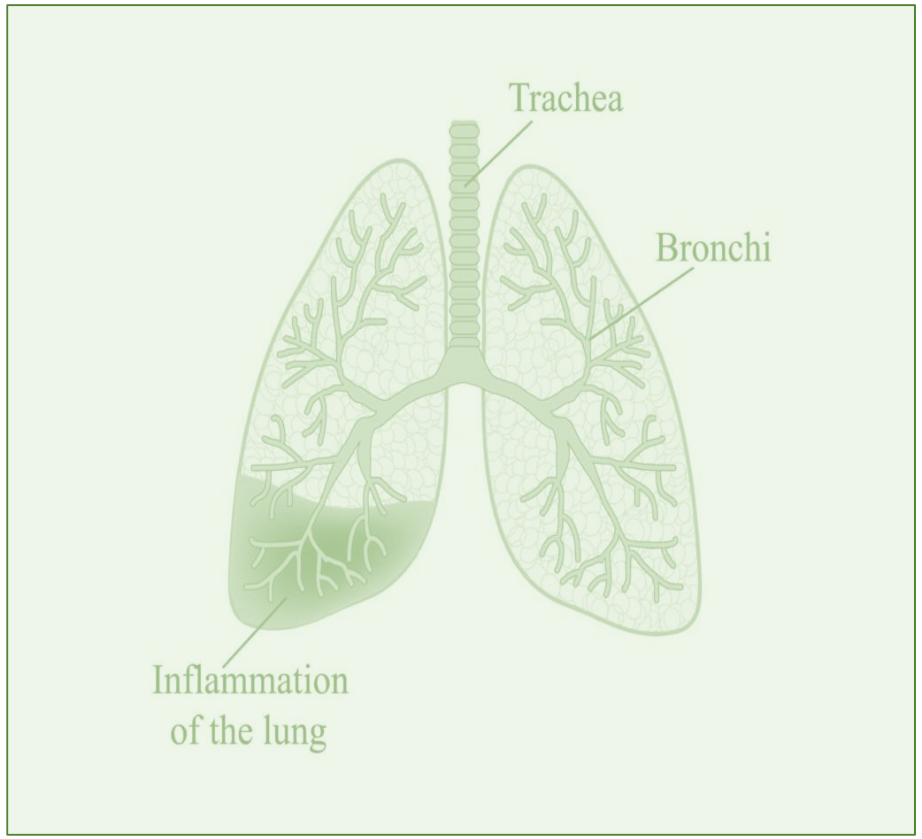
Definition of pneumonia

Pneumonia is characterized by fever, fast breathing plus cough or difficult breathing

Birth up to 2 months = 60/min

2 months up to 12 months = 50/min

12 months up to 5 years



Any cough lasting more than 2 weeks should be screened for TB

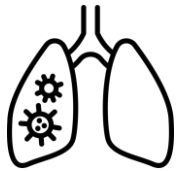
Classification of cough/difficult breathing



Cough or cold

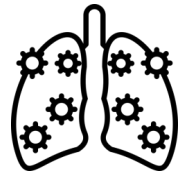
Cough or difficult breathing with:

- No fast breathing
- No chest indrawing
- No general danger sign



Pneumonia

Fast breathing with cough or difficulty breathing



Severe pneumonia or very severe disease

Cough or cold with or without fast breathing and any of the following:

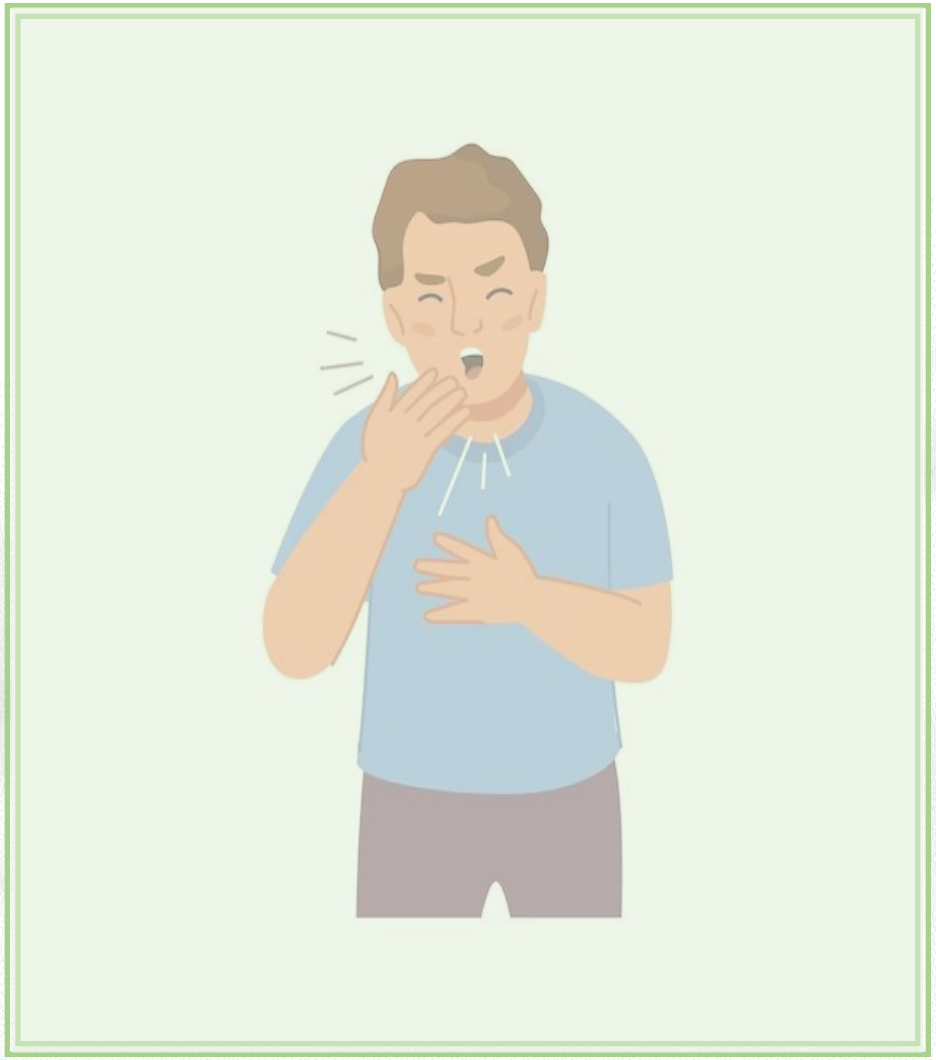
- Chest indrawing, and
- General danger sign

Management of severe pneumonia or very severe disease

01 Give first dose of appropriate antibiotic and refer

02 Continue feeding

03 Prevention is by the use of PCV vaccine



Management of pneumonia

Give first dose of Amoxicillin 250mg dispersible tablet

- For children 2 months up to 12 months- 1 tablet.
- For children 12 months to 5 years - 2 tablets

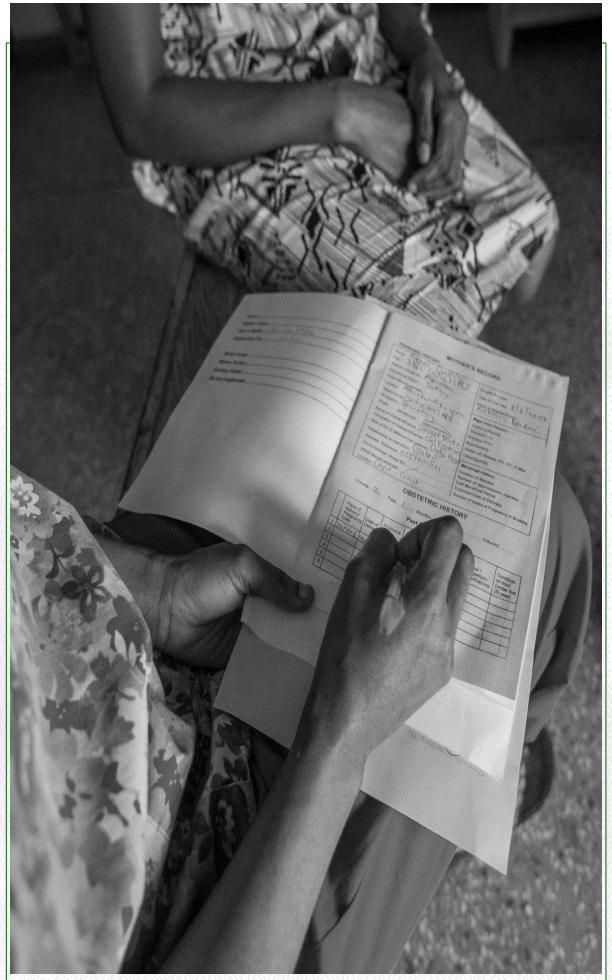
Follow up in 2 days

AGE or WEIGHT	AMOXYCILLIN DISPERSIBLE TABLET ➢ Give two times daily for 5 days	
	125mg TABLET	250mg TABLET
2 months up to 12 months (4 < 10kg)	2	1
12 months up to 5 years (4 < 10kg)	4	2

Management of cough or cold

A child with cough with no sign of pneumonia or very severe disease.

- If wheezing, give an oral bronchodilator for 5 days
- If child has had an episode of wheezing in the last 12 months, refer for assessment
- Soothe the throat and relieve the cough with a safe remedy



Key messages



Pneumonia is fever, fast breathing plus cough or cold



Refer every child with severe pneumonia or very severe disease after first dose of an appropriate antibiotics is given

MEASLES

Introduction



Measles has been a major cause of death globally in young children although this has been reduced due to measles vaccination delivered through national child immunization programme

Measles is endemic in Nigeria and is one of the top ten causes of childhood morbidity and mortality in the country

Definition of measles

Definition

A respiratory tract viral infection commonly found in children

Is characterized by generalized rash plus any of the following: cough, runny nose or red eyes

Measles is usually accompanied by fever

Diagnosis and clinical features 1/2

Picture of a typical maculopapular rashes





Diagnosis and clinical features 2/2

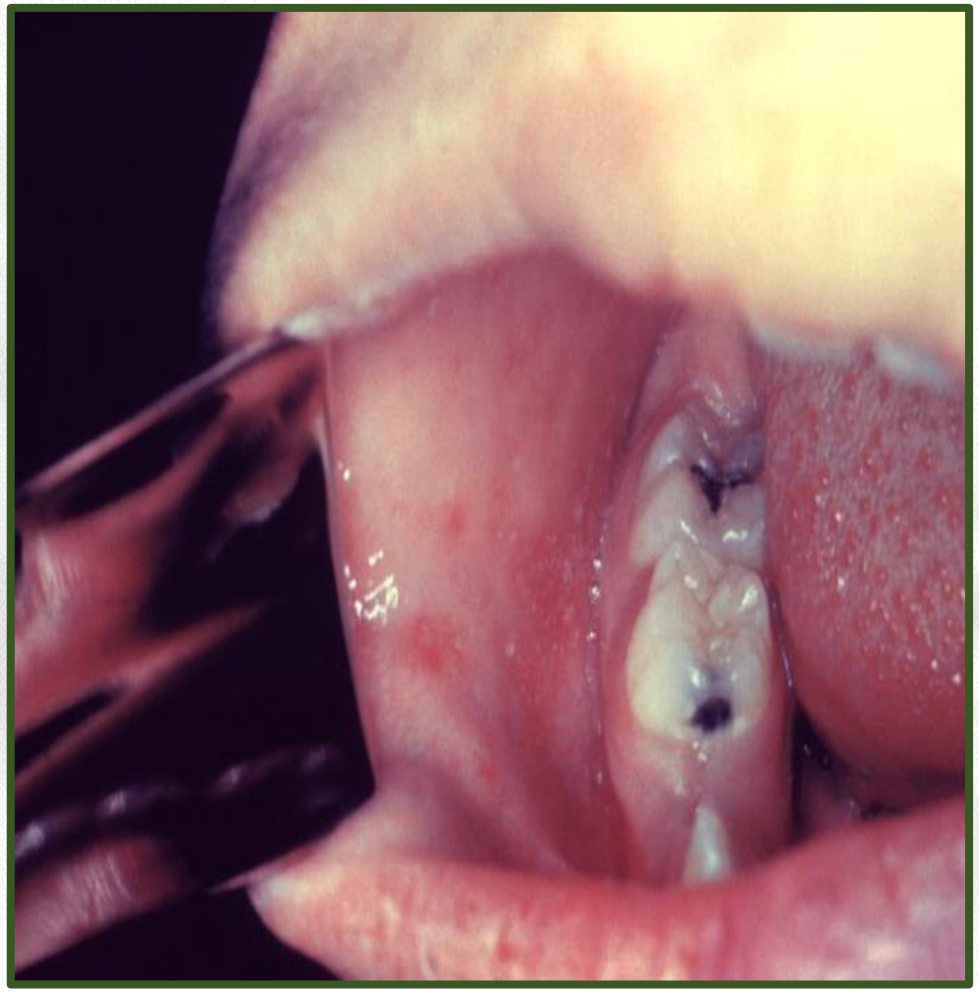
Eyes of child with Measles (conjunctivitis and coryza)





Diagnosis and clinical features of measles

Grey-white koplik spots on buccal mucosa



Skin/body of child with measles



Complications of measles

- Eye complications (blindness)
- Diarrhea
- Dehydration
- Middle ear infection (deafness)
- Pneumonia
- Encephalitis
- Mouth complications (mouth ulcers)

Management of measles 1/2

1. There is no specific therapy for measles.
2. If eye complication, give chloramphenicol eye drops and refer.
3. If mouth ulcers, apply gentian violet.
4. Its adverse consequences can be reduced by early treatment with **vitamin A**, by maintaining nutrition, and by early recognition and careful treatment of complications



Management of measles 2/2

VITAMIN **A**	All children with measles should receive vitamin A, unless supplemental vitamin A was given in the past month

Nutritional Support

1	Adequate nutritional intake must be sustained.
2	The mother should be encouraged to feed the child, even if diarrhoea is present.
3	Breastfeeding must be maintained if still breastfed
4	For children who are not breastfed, the energy content of the food should be increased by adding a teaspoon of vegetable oil and a teaspoon of sugar.
5	Give more fluids than usual to prevent dehydration.
6	If a child refuses to take feeds, check carefully for mouth ulcers and treat any that are found



Treatment of complications



Refer all children with measles complications.



Prevention



Measles vaccination at 9 months and a booster at 15 months. However, if mother is HIV positive vaccinate at 6 months

Key messages



A child with **generalised rash** plus any of the following: **cough, runny nose or red eyes** should be managed for measles



All cases of measles MUST be reported to the Disease Surveillance and Notification Officer (DSNO) of the LGA



Refer all case of measles with complications


Thank
you