

UGANDA ADS SELLER'S MANUAL

Module 3: Treatment that the ADS can Initiate

Sessions 11–15



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ACRONYMS

ACT	artemisinin-based combination therapy
ADDO	accredited drug dispensing outlets
ADS	Accredited Drug Shop
AIDS	acquired immunodeficiency syndrome
AL	artemether-lumefantrine
ANC	antenatal care
Bp	blood pressure
DADI	District Assistant Drug Inspector
DHO	District Health Officer
FEFO	first expiry, first out
FIFO	first in, first out
FP	family planning
GIT	gastrointestinal track
Hb	haemoglobin
HC	Health centre
HIV	human immunodeficiency virus
iCCM	integrated community case management
IMCI	Integrated Management of Childhood Illness
IM	intramuscular

IV intravenous

Kg kilogram

LAM lactation amenorrhoea method

LC Local Council

Mg milligram

MOH Ministry of Health

MSH Management Sciences for Health

NDA National Drug Authority

ORS oral rehydration solution

PNFP private not for profit

PSU Pharmaceutical Society of Uganda

RDT rapid diagnostic test

SDSI Sustainable Drug Seller Initiative

UCG Uganda clinical guidelines

UTI urinary tract infection

WHO World Health Organization

MODULE 3: TREATMENT THAT CAN BE INITIATED AT THE ADS

SESSION ELEVEN: CONDITIONS OF THE NOSE, MOUTH, AND THROAT



RUNNING NOSE AND SNEEZING

A watery nasal discharge and sneezing are some of the common presenting symptoms in both children and adults.

The majority of caretakers (mothers) usually claim that their children have chronic flu.

Common causes

Watery nasal discharge and sneezing is commonly associated with:

-  Common cold (flu)
-  Allergic rhinitis

Proper assessment of the client is very important for effective treatment.

Client assessment

Questions to ask the client	Remarks
1. How long have you had the symptoms?	<ul style="list-style-type: none">✓ Symptoms of common cold tend to last not more than 10 days even without treatment.✓ Symptoms of allergic rhinitis can last for weeks to months.✓ Sneezing and nasal discharges that have lasted for more than 1 month should be referred to a health centre III or IV.

<p>2. Which other symptoms do you have?</p>	<ul style="list-style-type: none"> ✓ Common cold tends to be associated with fever and general body weakness. ✓ Allergic rhinitis clients also complain of itching of the nose, throat, and the eyes but have no fever.
<p>3. What is the colour of the nasal discharge?</p>	<ul style="list-style-type: none"> ✓ Watery clear nasal discharge tends to be due to common cold and allergic rhinitis. ✓ Thick yellow discharge tends to suggest an infection of the sinuses (sinusitis), therefore, refer the client immediately.
<p>4. How often and when do you/the client sneeze?</p>	<ul style="list-style-type: none"> ✓ Repetitive sneezing that occurs in the morning hours is usually due to allergic rhinitis. ✓ Sneezing and nasal discharge that occurs at all times is due to common cold.
<p>5. What triggers the symptoms of sneezing and watery nasal discharge?</p>	<ul style="list-style-type: none"> ✓ Clients with allergic rhinitis tend to have symptoms of sneezing and running nose when exposed to cold, dust, oil paint, or insecticide sprays. ✓ Clients with common cold have symptoms all the time, whether hot or cold.
<p>6. What treatment, if any, has been given so far for this condition?</p>	<ul style="list-style-type: none"> ✓ Helps to know the response to a particular treatment. ✓ Guides on what treatment to give the client. ✓ Helps us to know when to refer the client especially those with chronic symptoms.

ALLERGIC RHINITIS

Allergic rhinitis is a chronic inflammatory disease of the nose characterized by sneezing and running nose.

It is common in persons with a family history of allergic diseases, such as asthma and eczema.

Allergic rhinitis is more common among children than in adults

Signs and symptoms

- ✚ Back flow of mucus into the throat
- ✚ Repetitive sneezing, especially in the morning hours
- ✚ Blocked nostrils
- ✚ Running nose
- ✚ Cough
- ✚ Itching of the nose
- ✚ Itching of the eyes
- ✚ Itching of the ear
- ✚ Itching of the throat










Causes of allergic rhinitis

Clients may develop symptoms after being exposed to any of the following:

- ✚ Dust
- ✚ Cold air during the rainy season
- ✚ Tobacco smoke
- ✚ Perfumes
- ✚ Oil paint
- ✚ Insecticide sprays, e.g., Doom

Cockroaches

General measures

-  Inform the client that allergic rhinitis is not curable but that medicines control the symptoms.
-  Advise the client to kill cockroaches in their house.
-  Advise the client to avoid exposure to substances he/she is allergic to, e.g., insecticide spray.
-  Advise the client to stop smoking if he or she smokes.
-  Advise the client not to keep cats in the house.
-  Advise the client to avoid using perfumes.
-  Advise the client to remove woollen carpets and use either tiles or plastic carpets.
-  Advise the client to wash their bed sheets regularly, e.g., twice a week.
-  Remove dust from the house by mopping instead of sweeping.

Drug treatment

Drugs used in the treatment of allergic rhinitis include:

Chlorpheniramine

Age	Dose	Dosage
Adults	4 mg	3 times daily for 3 weeks
Children	2 mg	3 times daily for 3 weeks

Cetirizine

Age	Dose	Dosage
Adults	10 mg	1 time daily for 3 weeks
Children 6-12 years	10 mg	1 time daily for 3 weeks
Children 1-5 years	5 mg	1 time daily for 3 weeks

Guidelines for referral

- ✚ Clients who fail to respond to any of the above mentioned treatment.
- ✚ Clients who present with severe nasal blockage and headache.
- ✚ Clients who are pregnant and infants.

COMMON COLD (FLU)

Common cold is a mild viral infection affecting the upper respiratory tract.

Children tend to get common colds more often than adults due to their low immunity.

Common cold is self-limiting and symptoms usually disappear within 10 days.

How do you get common cold?

Common cold is transmitted by respiratory droplets sneezed or coughed into the air.

Signs and symptoms

- ✚ Sneezing
- ✚ Running nose
- ✚ Nasal blockage

- ✚ Irritability
- ✚ Sore throat
- ✚ Fever
- ✚ Cough
- ✚ General body weakness

General measures

- ✚ Give the child plenty of warm drinks.
- ✚ Encourage bed rest.
- ✚ Encourage a balanced diet containing fruits and vegetables.
- ✚ Use normal saline nasal drops to unblock the nostrils.
- ✚ Continue breastfeeding.
- ✚ Clear the nose to ease breathing.
- ✚ Keep the child warm.
- ✚ Avoid contact with the infected person.

Drug treatment

Normal saline nasal drops: apply one drop in each nostril 4 times a day for 5 days to unblock the nostrils.

Normal saline helps to unblock the nostril.

Common cold medicines are usually available in combinations.

Common cold medicines

The medicines for common cold exist in combination.


The combination targets symptoms, such as nasal blockage, running nose, and fever.


Most common cold medicines contain chlorpheniramine, paracetamol, and pseudoephedrine.

They are over-the counter-medicines allowable even in a class C drug shop.

Ingredient	Target symptom
Chlorpheniramine	✓ Reduce running nose ✓ Stops sneezing
Pseudoephedrine	✓ Reduces nasal blockage
Paracetamol	✓ Reduce fever ✓ Reduce headache and body aches

Common cold medicines

 Cold cap syrup

 Flu cold

 Sinarest syrup

 Vitamin C

Note:

Do NOT give antibiotics to clients with common cold.

Antibiotics are not effective against viral infections.

Guidelines for referral

- ✚ Clients with symptoms lasting more than 7 days.
- ✚ Clients with common cold and difficulty in breathing.
- ✚ Clients with fever greater than 39° C.
- ✚ Clients with shaking chills or profuse sweating.
- ✚ Clients with asthma or HIV infection.
- ✚ Clients with common cold associated with thick purulent nasal discharge.

SORES IN THE MOUTH

Sores in the mouth are one of the common complaints seen in the drug shop setting. Both children and adults complain of sores in the mouth.

Common causes of sores in the mouth include:

- ✚ Oral thrush
- ✚ Tonsillitis
- ✚ Cold sores

Client assessment

Question to ask	Reason for asking
Examine the colour of the sores?	<ul style="list-style-type: none">✓ Oral thrush is associated with patches on the tongue.✓ Clients with oral thrush may be given nystatin suspension or tablets.

	<ul style="list-style-type: none"> ✓ Tonsillitis is associated with red sores and/or white pus on the tonsils (on either side of the back of the tongue). ✓ Red sores indicate bacterial or viral infection. ✓ Clients with red sores may benefit from glycerine of borax or penicillin V in case bacterial infection is suspected.
Do you have fever?	<ul style="list-style-type: none"> ✓ Sores in the mouth associated with high grade fever indicate bacterial infection.
Which other symptoms do you have?	<ul style="list-style-type: none"> ✓ Sores in the mouth associated with running nose and nasal congestion may be due to common cold (flu). ✓ Sores in the mouth in a person with skin rashes similar to that of HIV and loss of weight may be due to oral thrush. ✓ Clients with sores in the mouth who are HIV positive should be referred immediately.
What treatment have you had so far?	<ul style="list-style-type: none"> ✓ Helps to know the treatment the client has so far obtained. ✓ Helps on the choice of medicine to be given to the client.

SORE THROAT / TONSILLITIS

Sore throat causes an individual pain upon swallowing.

Causes of sore throat include:

- Infection by viruses
- Chemicals (such as cigarette smoke)
- Injury (such as swallowing a fish bone)
- Allergy or postnasal drip

Management of sore throat

- Use lozenges (e.g., Strepsils).
- Gargle with warm salt water.
- Take pain relievers (e.g., ibuprofen or paracetamol)
- Drink plenty of fluids
- Rest

Refer clients with sore throat if they have:


- Severe sore throat without much of a cough, and swallowing is painful enough that salivating occurs.
- Persistent fever over 38°C (Clinical Thermometer)
- Associated headache, abdominal pain, or vomiting
- Difficulty in breathing
- Signs of dehydration (dry mouth, sunken eyes, severe weakness, and/or decreased urine output)

Tonsillitis is an inflammation of the tonsils (throat).

Most of the cases of tonsillitis are due to viral infections, although a small percentage is due to bacteria.

Tonsillitis is most common among children.

Signs and symptoms of tonsillitis

 Pain on swallowing

 Fever

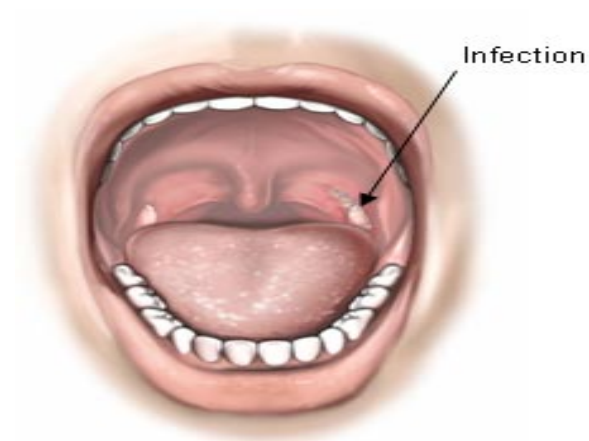
✚ Headache

✚ Swelling of the lymph nodes

✚ Vomiting

✚ Sores in the mouth and throat

Picture of a child with tonsillitis



General measures

- ✚ Encourage the client to take a lot of fluids, such as passion fruit juice.
- ✚ Advise the client to have bed rest until the symptoms reduce.
- ✚ Advise the client to use semi-solid foods, such as porridge, which can easily be swallowed.
- ✚ Advise the client to rinse the mouth with warm salty water.

Drug treatment

Pain killers

These medicines are used as supportive treatment to relieve pain associated with sore throat:

- Paracetamol
- Ibuprofen

Paracetamol

Age	Dose	Dosage
6-12 years	500 mg	3 times daily for 3 days
2-5 years	250 mg	3 times daily for 3 days
3 mos.-1 year	125 mg	3 times daily for 3 days

or

Ibuprofen

Age	Dose	Dosage
6-12 years	200 mg	3 times daily with food for 3 days
1-5 years	100 mg (1/2 tab.)	3 times daily for 3 days

Antibiotics

Antibiotics are recommended in cases where bacterial infection is suspected (e.g., temperature above 39.5°C and discharge from the tonsils).

Penicillin V

Age	Dose	Dosage
6-12 years	250 mg	4 times daily for 10 days
2-5 years	125 mg	4 times daily for 10 days

or

Amoxicillin

Age	Dose	Dosage
6-12 years	250 mg	3 times daily for 10 days
1-5 years	125 mg (5 ml)	3 times daily for 10 days

Guidelines for referral

- ✚ Clients who fail to respond to treatment.
- ✚ Clients who present with high grade fever (39.5° C or higher).
- ✚ Clients who complain of difficulty in swallowing and opening the mouth.
- ✚ Clients with severe pain and hoarseness of the voice.

ORAL THRUSH

- ✓ Oral thrush is a fungal infection of the mouth associated with white patches on the tongue and cheeks. Oral thrush is more common in children than adults.
- ✓ It is also common among adults with HIV and AIDS.

What factors increase one's chances to get oral thrush?

- ✚ Lowered immunity, e.g., HIV infection
- ✚ Diabetes mellitus
- ✚ Prolonged use of antibiotics
- ✚ Poor oral hygiene

Causes

Oral thrush is caused by a fungus called *Candida albican*.

This fungus is always part of the body and is available in small amounts.

It causes disease when the amount increases, e.g., when the immune system is lowered or from chronic use of antibiotics.

Signs and symptoms

- ✚ White coating on the tongue, cheek
- ✚ Pain on swallowing
- ✚ Dry mouth
- ✚ Fever

Picture: Child with oral thrush



General measures

- ✚ Improve oral hygiene.
- ✚ Proper rinsing of feeding bottles.
- ✚ Avoid unnecessary use of broad spectrum antibiotics.

Drug treatment

Nystatin oral suspension

Children: 100,000 IU 4 times daily for 7 days.

Nystatin oral suspension should be shaken before measuring off the dose.

Nystatin suspension should be kept in the mouth for at least 10 minutes before swallowing.

Guidelines for referral

- ✚ Clients who fail to respond to nystatin oral suspension.
- ✚ Clients with painful swallowing.

- ✚ HIV positive clients with oral thrush.
- ✚ Children below 1 month.

COLD SORES (FEVER BLISTERS)

Cold sores are tiny blisters found around the lips and the nostrils caused by a virus.

Cold sores are not curable and keep coming back whenever there is a rise in temperature (fever) due to malaria, common cold, etc.

HIV-positive clients tend to get a severe form of cold sores.

Causes

Cold sores are caused by herpes simplex virus type 1.

How do you get cold sores?

It is transmitted by direct contact with the infected person, e.g., during kissing.

The herpes simplex virus usually enters the body through broken skin around or inside the mouth.

Signs and symptoms

- ✚ Blisters around the mouth and nose
- ✚ Sore throat
- ✚ Fever
- ✚ Tingling pain

General measures

- ✚ Keep the infected area clean.
- ✚ Clean the lesions with antiseptic, such as surgical spirit, to dry them out.
- ✚ Stop the child from touching the infected area to prevent bacterial infection.

- ✚ Use Vaseline lip balm to keep the blisters moist.
- ✚ Do not kiss any person to prevent transmission to others.

Drug treatment

Cold sores usually heal without any drug treatment within a period of 6-10 days.

Severe cases, especially in immuno-suppressed clients, may require drug treatment.

Guidelines for referral

- ✚ Clients with severe cold sores
- ✚ HIV-positive clients
- ✚ Children below 1 year

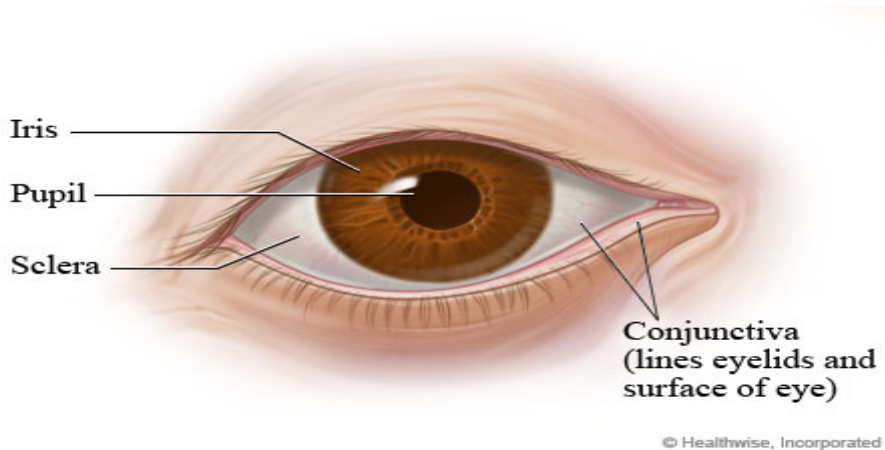
SESSION TWELVE: EYE CONDITIONS

Introduction

The eye is a delicate organ. Some eye conditions are short-lived and can be successfully managed at the ADS. However, many of them need to be referred for specialized attention as they can be a sign of serious complications that may easily lead to permanent eye damage or even loss of vision.

NOTE: IT IS HIGHLY RECOMMENDED THAT WHEN DRUG SELLERS ENCOUNTER EYE CONDITIONS, THEY PROVIDE FIRST AID AND REFER THE CLIENT FOR FURTHER MEDICAL ATTENTION.

Structure of the eye



Eye Conditions that can be Managed at the ADS

RED EYE

Red eye occurs when there is an inflammation of the conjunctiva sac (white part of the eye).

The inflammation (conjunctivitis) may occur due to any of the following:


- ✚ Allergy of the eye
- ✚ Infections with bacteria or viruses
- ✚ Injury to the eye

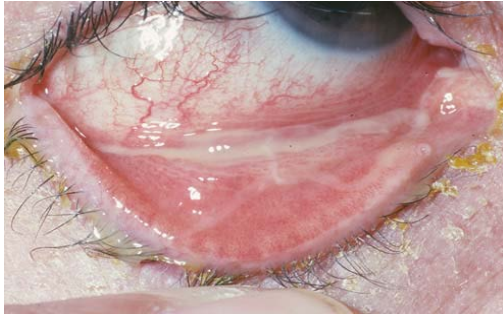
Client assessment

Question to ask	Reason for asking
1. How long have you had red eye?	<ul style="list-style-type: none"> ✓ Helps to know the cause. ✓ Viral & bacterial conjunctivitis tend to last for a short period. ✓ Allergic conjunctivitis lasts for a long period of time.
2. Does your eye produce a discharge?	<ul style="list-style-type: none"> ✓ Helps to know the cause. ✓ Bacterial conjunctivitis causes pus discharge. ✓ Viral conjunctivitis causes a watery discharge.
3. Do you have itching of the eyes?	<ul style="list-style-type: none"> ✓ Allergic conjunctivitis causes itching of the eyes. ✓ Viral and bacterial conjunctivitis do not cause itching.
4. Do you have a problem in seeing clearly?	<ul style="list-style-type: none"> ✓ Loss of vision indicates a severe problem that requires immediate referral.
5. Are there any people in your area with a similar problem?	<ul style="list-style-type: none"> ✓ Viral conjunctivitis usually affects many people at the same time.
6. Do you have other diseases, such as allergy of the nose or asthma?	<ul style="list-style-type: none"> ✓ Allergic conjunctivitis is common among people with allergic diseases.

<p>7. What treatment have you gotten so far?</p>	<ul style="list-style-type: none"> ✓ It helps to choose the right medicine for the client. ✓ May guide on referral, especially when symptoms worsen.
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Management of red eye

Type of red eye	Management
	<p>Signs and symptoms</p> <ul style="list-style-type: none"> ✚ Red eye with no discharge, sensitivity to light, excessive tearing <p>General measures</p> <ul style="list-style-type: none"> ✚ Encourage regular washing of hands with soap and water. ✚ Avoid touching the eyes with the hands. ✚ Use a clean towel and handkerchief daily. ✚ Don't share towels or handkerchiefs. ✚ Don't share personal eye care items, such as eye pencils. ✚ Avoid shaking hands with an infected person. <p>Drug treatment</p> <ul style="list-style-type: none"> ✚ Viral conjunctivitis is usually self-limiting i.e. gets cured within 1-2 weeks even without treatment. ✚ No antibiotics are required. <p>Note: Refer the client in case there is no improvement after one week.</p>

	<p>Signs and symptoms</p> <ul style="list-style-type: none">✚ Redness of the eye.✚ Yellow discharge from the eye.✚ Discharge may cause the eyelashes to stick together.✚ Foreign body sensation✚ Tearing of the eye✚ Irritation✚ Excessive eyelid crusting upon waking. <p>Drug treatment</p> <p><i>Tetracycline eye ointment:</i> Apply 3 times daily for 7 days or</p> <p><i>Chloramphenicol eye ointment:</i> apply 3 times daily for 7 days.</p>
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FOREIGN BODY (FB) IN THE EYE

Causes

Solids: dust, insects, metal or wood particles

Liquids: splashes of irritating fluids

Appearance

May be severe pain, tears or redness, FB may be visible



Other possible causes of similar symptoms

Other injury or trauma

Management (all clients): Make a thin “finger” of moistened cotton wool, move the eyelid out of the way, and gently remove the FB.

- **If this fails:** Refer to an eye specialist.
- **For irritating fluids in the eye:** Wash the eye with plenty of clean water or saline. If cornea is damaged, apply tetracycline eye ointment, cover the eye, and refer to an eye specialist.

OPHTHALMIA OF THE NEWBORN

This is pus discharge from the eyes in babies <1 month.

Causes

- ✚ Infections, usually from mother's birth canal or due to poor hygiene of the person caring for the newborn.
- ✚ Bacterial, e.g., *Gonococci* - chlamydial

Appearance

- Reddening of one or both eyes

- Swelling of the eye lids
- Purulent discharge
- Excessive production of tears (lacrimation)
- If not treated early, will result in scar formation or perforation of the cornea, either of which will lead to blindness.



Prevention

Good antenatal care, with screening and treatment of mother for genital or urinary tract infections.

Clean delivery; prophylactic treatment of all neonates.

Management

Apply tetracycline eye ointment 1% twice daily; carefully clean away any pus discharge, as required, and refer for further management.

STYE

A localized infection of the hair follicle of the eyelids. Locally known as “*kasekere*.”

Cause: a bacteria called *Staphylococcus aureus*.

Appearance



Itching in the early stages, swelling, pain, tenderness, pus formation.

It may burst spontaneously.

Management

- Usually the stye will heal spontaneously; avoid rubbing the eye as this might spread the infection; and apply a warm/hot compress to the eye.
- Apply **tetracycline eye ointment 1%** 2-4 times daily.
- Remove the eye lash when it is loose.

Prevention

- Remove any loose eyelashes
- Good personal hygiene

Eye Conditions that Need to be Recognised and Referred

CATARACTS

This is cloudiness of the lens inside the eye. It is by far the most common cause of blindness in many African countries.

Cause: Old age, trauma, genetic, severe dehydration in childhood

Appearance



Reduced vision. Pupil is **not** the normal black colour but is grey, white, brown, or reddish in colour. Condition is not painful unless caused by trauma. Eye is not red unless condition is caused by trauma.

Management (adults and children)

Do **not** give any medicines. Explain to client that the condition is very **manageable** and refer to the nearest health facility.

KERATITIS

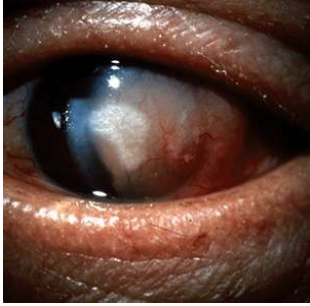
Inflammation of the cornea

Cause

Infection: bacterial, viral, or fungal, leading to corneal ulceration. Trauma: chemical, foreign bodies

Appearance

As for conjunctivitis, **except** that in keratitis, the cornea is **not** clear and cannot see clearly. Condition is often in one eye, and the eye is painful.



Management (adults and children)

Apply **tetracycline eye ointment 1%**.

Explain the seriousness of the condition to the client.

Refer to a qualified eye health worker.

Prevention

- Wear protective goggles when hammering, sawing, chopping, grinding, etc.
- Warn children playing with sticks of risk of eye injuries.

XEROPHTHALMIA

Dryness of the part of the eye ball exposed to air and light due to Vitamin A deficiency.

Clinical features

Starts with night blindness, followed by dryness of the conjunctiva and cornea. Eventually the cornea melts away, the eye perforates, and total blindness occurs.

Management: REFER

Prevention

Good balanced diet, especially for children, women, long-term hospital in-patients, boarding school students, etc.

Follow vitamin A supplementation for all children under five years of age (in accordance with relevant national guidelines).



Prevention of eye diseases

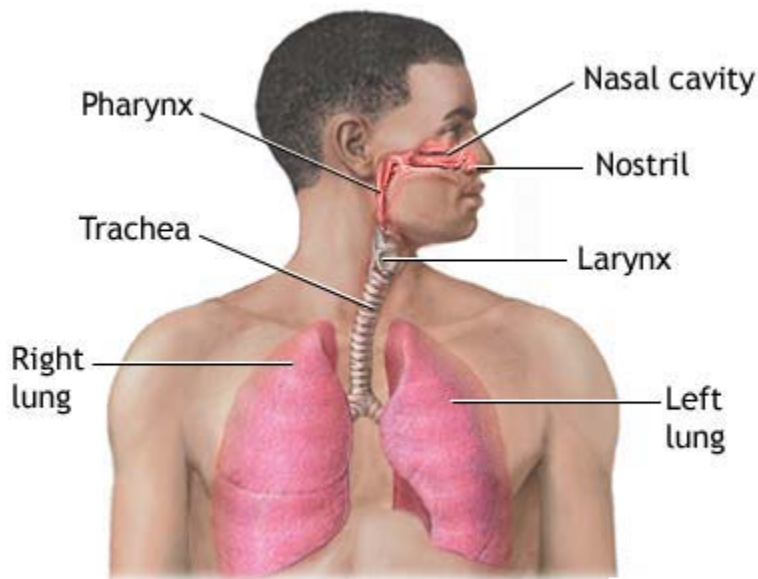
Wear protective goggles when hammering, sawing, chopping, grinding, etc.

Caution children playing with sticks about risk of eye injuries.

Follow vitamin A supplementation for all children under five years of age (in accordance with relevant national guidelines).

SESSION THIRTEEN: DISEASES AFFECTING THE RESPIRATORY TRACT

Structure of the respiratory tract



Diseases that affect the respiratory tract present with symptoms such as cough and difficulty in breathing.

The most common causes of respiratory tract infections are bacteria and viruses.

CLIENT WITH COUGH


Cough is a normal protective mechanism that helps the body to get rid of mucus and any foreign substance from the airway.

It may be acute (cough lasting for less than 2 weeks) or chronic (lasting for more than 2 weeks).

Types of cough

Cough is divided into 2 categories:


- ✚ Productive cough


 Dry cough

Productive cough is associated with production of mucus.


It is a common symptom of diseases such as pneumonia, tuberculosis, and asthma.

Dry cough

 Dry cough is a type of cough that does not produce sputum.

 Dry cough is very common in clients with common cold or side effect of medicines.

Common causes of cough

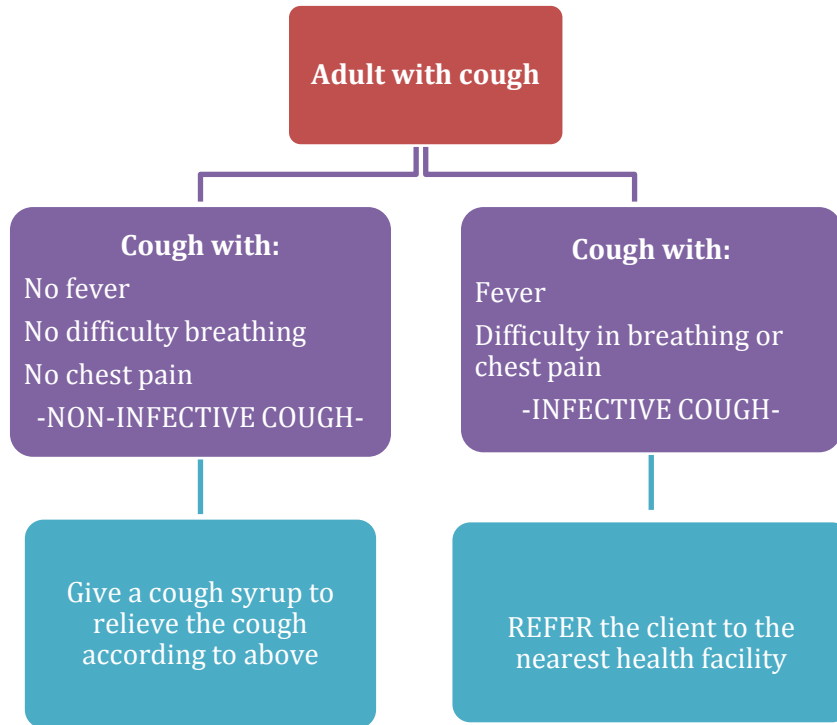
 Infections by bacteria and viruses, e.g., bacteria that cause pneumonia and TB, allergy to medicines, chemicals.

Client assessment

Question to ask	Reason for asking
For how long have you had cough?	<ul style="list-style-type: none"> ✓ Helps to know whether the cough is chronic or acute. ✓ Chronic cough of more than 2 weeks requires referral.
Does your cough produce mucus or not?	<ul style="list-style-type: none"> ✓ Guides on medicine choice.
What is the colour of the mucus (sputum)?	<ul style="list-style-type: none"> ✓ White and clear mucus indicates no infection. ✓ REFER: yellow, green, or brown mucus suggests infection.
Do you have fever and chest pain?	<ul style="list-style-type: none"> ✓ If yes, REFER.

Question to ask	Reason for asking
When is the cough severe?	<ul style="list-style-type: none"> ✓ If it is severe during the day, evaluate further. ✓ If it is severe during the night, REFER.
Do you smoke cigarettes?	<ul style="list-style-type: none"> ✓ Cigarette smokers usually have chronic coughs and may develop bronchitis. ✓ If yes, REFER.
Do you have wheezing?	<ul style="list-style-type: none"> ✓ Wheezing is common in asthma. ✓ If yes, REFER.
Do you also have common cold (flu)?	<ul style="list-style-type: none"> ✓ Common cold usually causes dry cough. ✓ Choose a cough syrup containing antihistamines to cater for flu.
What medicines have you got so far to treat your cough?	<ul style="list-style-type: none"> ✓ Helps to guide on the selection of the cough syrup. ✓ If the client has already taken the recommended treatment, REFER.

Management of Cough in Adults



NOTE: Only *non-infective* coughs in adults are treated at the ADS.

Review the label and insert to find the active ingredients in the cough preparation.

- Expectorants (e.g., Guaiphenesin, sodium citrate) help in relieving productive cough.
- Mucolytics (e.g., Carbocystein) help in clearing mucus that is difficult to expel.
- Preparations with codeine, dextromethorphan, or diphenhydramine help to reduce irritation in dry cough and suppress it.

Management of Cough in Children under 5 Years: the iCCM Approach

Cough in children may be associated with pneumonia, which if poorly managed, may cause death.

Proper assessment is very important to avoid the wrong treatment.

Assessment of a child with cough involves counting the breath rate to rule out pneumonia.

Assessment of a child with cough (review and use the iCCM Job Aid)

Guidelines for referral

- | | |
|------------------------------------|---|
| ✚ Cough associated with chest pain | ✚ Cough with a danger sign |
| ✚ Cough with blood | ✚ Cough associated with severe wheezing |
| ✚ Cough lasting more than 3 weeks | ✚ Cough that has failed to respond to treatment |
| ✚ Chronic night coughs in children | |

COMMON COLD

A common cold is an illness that may cure without any specific treatment except supportive management (symptomatic management). Common cold is caused by any one of more than 200 viruses. It produces mild symptoms lasting only 5 to 10 days. It is different from “flu” influenza, which can have severe symptoms.

Modes of transmission of the common cold

The primary means of spreading a cold is hand to hand contact or from contaminated objects, such as hand knobs, telephones touched by an infected person, etc. The typical transmission occurs when a cold sufferer rubs his or her nose and then, shortly thereafter, shakes hands with someone who, in turn, touches his or her own nose or eyes.

Symptoms of common cold

The most common complaints associated with the cold are usually mild.

- Running nose
- Sneezing

- Nasal and sinus blockage
- Headache
- Sore throat
- Cough

When to refer for medical care

If symptoms become severe or if the client develops the symptoms listed below, it may be the flu virus, bacterial pneumonia, or another illness that needs to be managed at a nearby primary health facility.

- Shaking chills
- Profuse sweating
- Muscle aches
- Nausea
- Vomiting
- High fever (greater than 39°C)

Management of the common cold

Since common cold is viral, **ANTIBIOTICS SHOULD NOT BE USED**. Antibiotics kill bacteria, not viruses. There is no cure (antiviral medication) that targets the 200 different viruses that cause common cold.

Therefore, management of common cold involves several steps that alleviate the cold symptoms.

Medicines used in management

- **Pain and fever** are treated as outlined in section on management of pain, fever, and inflammation. (Use pain killers.)

- **Nasal congestion and cough** are managed by antihistamines and cough preparations. Preparations containing pseudoephedrine may be used to alleviate nasal congestion.
 - Cough suppressants: These act by blocking the cough reflex. As a general rule, use a suppressant (contains dextromethorphan, codeine) for a dry cough.
 - Expectorants: A cough associated with excessive mucus production requires use of an expectorant (contains guaifenesin, sodium citrate).
- **Sore throat:** Sore throat is treated as outlined in the section on management of pain, fever, and inflammation. Lozenges and topical sprays can provide relief from sore throat pain. A warm saltwater gargle can relieve a scratchy throat.

There are many mixtures, syrups, tablets, and capsules that combine pain killers, antihistamines, and cough medicines available over the counter. Medicine outlet sellers are encouraged to familiarize themselves with products available on the market by reading medicine packages and inserts.

Avoid giving so many medicines where one formulation would suffice.

- Inhaled steam may ease congestion and drippy nose. Hold your head over a pot of boiling water and breathe through your nose. Be careful. If the steam burns your nose, breathe in more slowly.

Prevention

- Wash your hands frequently.
- Avoid touching your nose and eyes.
- Do not share utensils or towels at home.

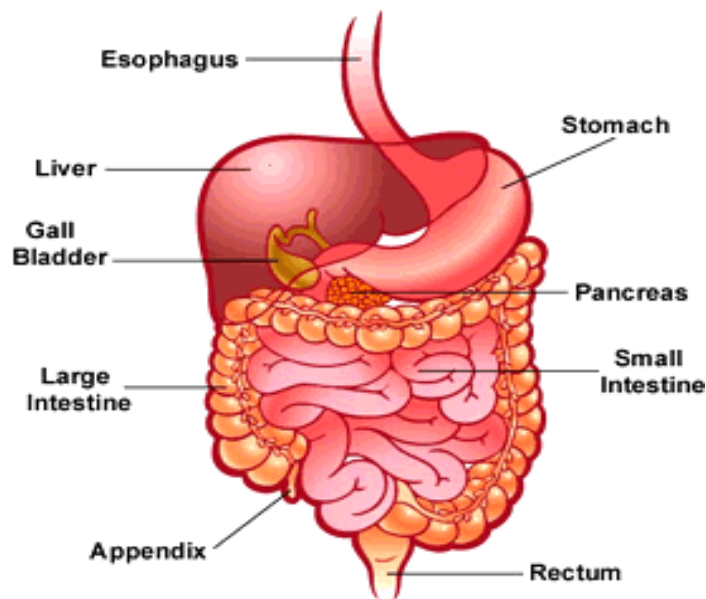
SESSION FOURTEEN: DISEASES AFFECTING THE GASTROINTESTINAL TRACT

Introduction

Diseases affecting the gastrointestinal track (GIT) usually present with:

- ✚ Diarrhoea
- ✚ Vomiting
- ✚ Heartburn
- ✚ Swelling/bleeding from the anus
- ✚ Constipation

Structure of the human digestive system



DIARRHOEA

Diarrhoea is the frequent passage (4 or more times in 24 hours) of loose, watery, soft stools plus bloating, pressure, and cramps commonly referred to as gas. Fluids pass through the body before they can be absorbed in the intestine. With diarrhoea, the most significant cause of severe illness is loss of water from the body. When accompanied by vomiting, it is made even worse. Loss of

water from the body is referred to as dehydration. Most deaths from diarrhoea occur in the very young and the elderly, whose health may be put at risk from a moderate amount of dehydration.

Some descriptions of diarrhoeal diseases include;

- Persistent diarrhoea is diarrhoea lasting over 2 weeks.
- Acute enteritis means inflammation of the intestine.
- Gastroenteritis is diarrhoea associated with nausea and vomiting and sometimes abdominal pain.
- Dysentery is diarrhoea that contains blood, pus, or mucus.

Causes of diarrhoea

- ✚ Viral infections cause most cases of diarrhoea, usually mild-to-moderate symptoms with frequent, watery bowel movements, abdominal cramps, and low-grade fevers. Diarrhoea generally lasts from 3-7 days. Viral infections are the common cause of epidemics of diarrhoea among adults and school age children.
- ✚ Bacterial infections cause the more serious cases of diarrhoea. The most common cause is food poisoning. Bacterial infections cause severe symptoms with vomiting, **fever**, and severe abdominal cramps or abdominal pain. In more serious cases, the stool may contain mucus, pus, or bright red blood.
- ✚ Protozoa infections e.g. Amoebiasis, giardiasis.
- ✚ Malnutrition, e.g., kwashiorkor.

Symptoms of diarrhoea

- Watery, liquid stool: The stool may be any colour. The passage of red stool suggests intestinal bleeding and could mean a more severe infection. The passage of thick, tarry black stool suggests significant bleeding in the stomach or upper portions of the intestine and is not usually caused by acute infections. Any bleeding should be referred.

- Abdominal cramps: Occasionally there may be mild-to-moderate abdominal pain. Severe abdominal pain is not usually common but if present, it suggests more severe disease. **REFER.**
- Fever: A high fever is usually not common but if present, it is suggestive of a more severe disease. **REFER.**
- Dehydration: If not well managed, diarrhoea may lead to dehydration. Dehydration is a sign of potentially serious disease.
 - Dehydrated adults may be very thirsty or appear to have dry mouths.
 - The skin of older people may appear to be loose. Elderly may also become very sleepy or have behaviour changes and confusion when dehydrated.
 - Dehydrated infants and children may have sunken eyes and dry mouths. They may appear very sleepy or may not be able to eat or drink from a bottle.

Supportive management of diarrhoea

In most cases, supportive treatment is sufficient in diarrhoeal management because diarrhoea is commonly always self-limiting. However, depending on the cause, specifically if the cause is bacteria or protozoa infection, antibiotics should be used.

Adults:

- Most cases of diarrhoea (viral) improve on their own.
- The following supportive treatment is often sufficient in diarrhoeal management:
 - ✚ If available, prepare and give **ORS/Zinc co-pack** after every bowel movement.
 - ✚ If ORS/Zinc co-pack is not available, prepare and give ORS and give Zinc tablets after every bowel movement.
 - ✚ Paracetamol
 - ✚ Make sure client does not become dehydrated. Advise client to drink plenty of fluids. Avoid milk because it will make the diarrhoea worse.

- ✚ Greasy and fatty foods should be avoided.
 - ✚ After the diarrhoea stops, alcoholic beverages and spicy foods should be avoided for at least 2 days.
- Advise client to continue his or her usual activities if mildly ill with diarrhoea, but to avoid strenuous exercise until they feel better because strenuous exercise increases the risk of dehydration.
 - An antibiotic will be required only if the cause is specifically identified as bacteria or protozoa infection or when there is blood in the stool.
 - **REFER all cases of bloody diarrhoea to a nearby health facility.**

Children below 5 Years with Diarrhoea

Diarrhoea is the third leading cause of death in children under 5 years in Uganda.

Most cases of diarrhoea in children are caused by viruses and are self-limiting.

The majority of deaths in acute diarrhoea are due to severe dehydration.

Proper history taking and physical examination of the child with diarrhoea is very important for effective treatment.



Assessment of a child with diarrhoea

Questions to ask/Physical examination	Remarks
How old is the child?	<ul style="list-style-type: none"> ✓ Guides on the dose of medicine. ✓ Viral diarrhoea is common among children under 5 years.
Ask and look for general danger signs	<ul style="list-style-type: none"> ✓ Check for chest in-drawing, convulsions, lethargy, unconsciousness, vomiting everything, not able to breastfeed, severe dehydration. ✓ REFER all children with a danger sign immediately to the nearest health unit. ✓ Help caregiver to give pre-referral treatment according to illness.
How long has the child had diarrhoea?	<ul style="list-style-type: none"> ✓ Refer children with diarrhoea for more than 2 weeks.
Is there blood in faeces (stool)?	<ul style="list-style-type: none"> ✓ Refer all children with bloody diarrhoea to the nearest health unit. ✓ Give ORS and help caregiver to give child a drink until not thirsty.
Assess level of dehydration (see below)	<ul style="list-style-type: none"> ✓ If the skin goes back slowly, it suggests dehydration, therefore give ORS and zinc. ✓ Skin goes back very slowly. Sign of severe dehydration. Refer immediately. Give ORS and help caregiver to give the child a drink until not thirsty.

Assessment of level of dehydration and action to be taken

Children with diarrhoea should be assessed well in order to determine whether they are dehydrated and what action to taken.

Assessment involves history taking from the mother/caregiver and physical examination of the child (e.g., pinching for the elasticity of the skin).

Classification of dehydration	Signs	Action to be taken
No dehydration	<ul style="list-style-type: none"> ✓ Child is well and alert. ✓ Drinks normally. ✓ Skin pinch goes back quickly. 	<ul style="list-style-type: none"> ✓ Give ORS and zinc to prevent dehydration. ✓ Continue breastfeeding.
Severe dehydration	<ul style="list-style-type: none"> ✓ Child is unconscious. ✓ Sunken eyes. ✓ Skin pinch goes back very slowly. ✓ Drinks poorly/Unable to drink. 	<ul style="list-style-type: none"> ✓ Refer the client immediately to the nearest health centre. ✓ Give ORS and instruct the mother to give to the baby as they move to the health centre. ✓ Instruct the mother to immediately take the child to health centres III or IV with facilities to handle severe dehydration. ✓ Follow up on the client with a call or visit to confirm whether the mother/caregiver took the client to the health centre.

Treatment

Diarrhoea without signs of dehydration

- ✚ Give low osmolar ORS and zinc supplementation.
- ✚ Continue breastfeeding during and after diarrhoea episodes.

Dose of ORS/zinc

Age	Proper dose
<i>Oral rehydration salts solution</i>	
1 month-2 years	As much as the child wants, but at least every after loose stool (defecation)
2-5 years	100-200 ml every after loose stool
<i>Zinc tablets</i>	
2-6 months	Zinc: 10mg (½ tablet) once daily for 10 days
6 months-5 years	20 mg (1 tablet) once daily for 10 days

Prevention of diarrhoea

Advise the clients and the community to:

- ✚ Wash hands with soap and clean water before eating, after visiting the latrine, and after attending a child who has defecated.
- ✚ Proper disposal of faeces. (Use latrine.)
- ✚ Eat food when still hot.
- ✚ Regular de-worming of both children and adults.
- ✚ Drink clean boiled or purified water.

- ✚ Cover all food and drinks to prevent contamination by flies.
- ✚ Exclusively breastfeed the baby for the first 6 months of life.
- ✚ Cut the finger nails short to avoid accumulation of germs.
- ✚ Wash hands before and after preparing food.

Guidelines for referral of diarrhoeal cases in children

- ✚ Children with severe dehydration.
- ✚ Clients with bloody diarrhoea and fever.
- ✚ Children with diarrhoea that has lasted for more than 2 weeks.
- ✚ Clients with severe diarrhoea and HIV infection.

HEARTBURN

Heartburn is a burning discomfort or pain felt in the chest (breast bone).

Heartburn usually occurs after eating a lot of food and tends to be common among old people, the overweight, and pregnant mothers.

It may also be associated with other symptoms, such as:

- ✚ Pain in the chest
- ✚ Feeling like vomiting

Causes of heartburn

Heartburn may be a symptom of any of the following:

- ✚ Peptic ulcer disease (a wound found in the stomach or duodenum).
- ✚ Reflux oesophagitis (return of acidic/bitter food from the stomach to the throat).

Conditions that increase one's chances of getting heartburn

A client may develop heartburn because of any of the following:

- ✚ Drinking too much alcohol for a long period of time
- ✚ Swallowing medicines, such as aspirin, diclofenac for a long period
- ✚ Smoking cigarettes
- ✚ Presence of hernia
- ✚ Pregnancy
- ✚ Being stressed for a long period of time

General measures

- ✚ Advise clients who smoke cigarettes to stop.
- ✚ Advise clients who drink alcohol to stop.
- ✚ Encourage clients with peptic ulcers to minimize stress through doing regular exercises and having enough rest.
- ✚ Advise clients not to eat a lot of food close to bed time.
- ✚ Advise clients to lose weight, especially very fat ones.
- ✚ Tell clients to avoid any foods that would cause heartburn.
- ✚ Advise clients to avoid medications such as aspirin, ibuprofen, or diclofenac, etc.
- ✚ Advise clients to chew food very well before swallowing.

Drug treatment

Antacids

Antacids are recommended for symptomatic relief of heartburn. Examples include:

Common brands

- ✚ Magnomint oral suspension and tablets
- ✚ Alcid oral suspension
- ✚ Gestid tablets
- ✚ Centacid oral suspension
- ✚ Renegel oral suspension
- ✚ Magnant oral suspension
- ✚ Algel oral suspension
- ✚ Relcer gel

Dose of antacids: Adults

Liquid antacids

10 ml every 4 hours, preferably after eating food, for 2 weeks.

Tablets

Chew 2 tablets every 4-6 hours for 2 weeks.

Note: All antacids in tablet form should be chewed before swallowing.

Guidelines for referral

- ✚ Clients who fail to respond to antacids.
- ✚ Clients who vomit blood.
- ✚ Clients with severe epigastric pain.
- ✚ Clients with recurrent symptoms.
- ✚ Children with peptic ulcer disease.

CONSTIPATION

Constipation is the reduced frequency of passage of stool less than 3 times in a week.

It is characterized by passage of small and hard stool (faeces).

Constipation is more common among the elderly than young adults.

Signs and symptoms

- ✚ Reduced frequency of defecation (absence of defecation for more than 3 days)
- ✚ Passage of small and hard stool
- ✚ Abdominal pain
- ✚ Loss of appetite
- ✚ General body weakness

Causes of constipation

- ✚ Lack of exercise
- ✚ Not drinking enough water
- ✚ Not eating fruits and vegetables
- ✚ Side effect of medicines, such as iron for the treatment of anaemia
- ✚ Age, especially the elderly who do not move
- ✚ Pregnancy
- ✚ Use of concentrated milk for infants

General measures

- ✚ Encourage clients to do exercises, like walking, riding a bicycle.
- ✚ Advise clients to drink a lot of water, at least 8 cups a day.
- ✚ Advise clients to go to the toilet whenever they feel like it.
- ✚ Advise clients to include fruits, like paw paws, sweet bananas, avocados, and vegetables in their diet.

Drug treatment

In case constipation cannot be corrected by the advice above, refer the client with constipation to a health unit for a proper check-up.

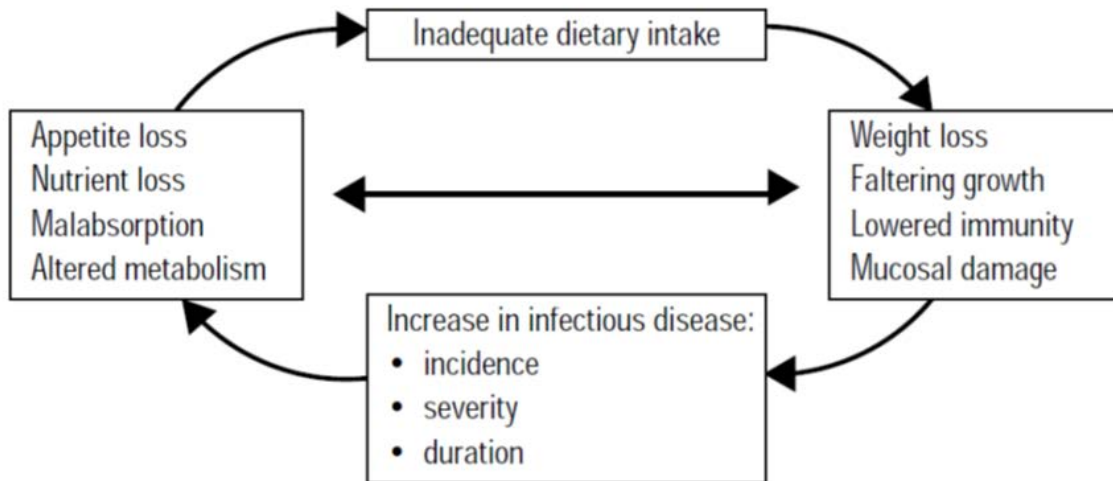
SESSION FIFTEEN: MALNUTRITION



MALNUTRITION

Malnutrition is the condition that develops when the body does not get the right amount of nutrients for proper growth and functioning of the body. Undernutrition results when the body does not get sufficient amounts of the right kinds of nutrients it needs for adequate growth.

The vicious cycle of undernutrition



Common Forms of Malnutrition



This child has **wasting**. Wasting results from acute malnutrition.



This child has **bilateral oedema**. Bilateral oedema results from acute malnutrition.



These two children are the same age. The child on the right is **stunted**. Stunting results from chronic malnutrition.

Definitions

Wasting (also known as marasmus) – “Wasting, or low weight for height, is a strong predictor of mortality among children under five.”

Stunting – “A child who is stunted or chronically malnourished often appears to be normally proportioned but is actually shorter than normal for his/her age.”

(UNICEF, <https://www.google.com/#q=stunting>)

Bilateral Oedema – Retention of salt and water results in swelling that is most noticeable in the feet.

Anaemia – The blood does not have sufficient red blood cells, which results in weakness, tiredness, and pallor of the palms.

Consequences of malnutrition

High child mortality, disease, and disability

- A severely wasted child is at a nine times higher risk of dying.
- A severely stunted child faces a four times higher risk of dying.
- Stunting is associated with poor school achievement and performance.

Poor educational achievement

- Delay in starting school
- High absenteeism
- Poor learning ability
- Lower Intelligence Quotient

- ✚ Diminished income-earning capacity in adulthood.
- ✚ Higher risk of coronary heart disease, stroke, hypertension, and type II diabetes.
- ✚ Contributes to poverty
 - Cost of treating illnesses caused by malnutrition
 - Cost of caring for sick
 - Lost care for other (not sick) household members

Methods of assessment for malnutrition

The ADS will concentrate on checking for signs and symptoms of malnutrition.

Checking for signs and symptoms

Wasting

- ✚ Muscle wasting, especially at buttocks
- ✚ Boniness
- ✚ Misery
- ✚ Poor attitude (apathy)
- ✚ Irritability
- ✚ Poor appetite
- ✚ Thin hair and brown hair
- ✚ Wise old man facial appearance
- ✚ Severe pallor of palms and soles



- Dehydration

Bilateral oedema

- ✚ Swelling of both feet
- ✚ Assessment is done by applying pressure with the fingers on both feet. If an indentation remains when finger pressure is removed, the child has bilateral oedema. (See images below.)



Stunting

- ✚ Appears to be normally proportioned
- ✚ Low height for age

These two girls are the same age →



Anaemia

Anaemia is especially dangerous in children and pregnant women.

Signs and symptoms

- + Pale lips, gums, palm, and tongue
- + Tiredness
- + Dizziness
- + Headache
- + Rapid breathing
- + Heart palpitations (feeling of the heart beating)
- + Oedema (swelling of the legs)



Causes of anaemia

Anaemia may be caused by any of the following:

- + Malaria infection
- + Hookworm infestation
- + Blood loss due to injuries
- + Heavy menstruation
- + Nasal bleeding
- + Diet low in iron
- + Sickle cell disease

Management

REFER all clients to health facility for further assessment.

Preventive measures

- ✚ Advise the client to eat dark green leafy vegetables (e.g., Nakati, Bugga, etc.)
- ✚ Deworm children every 3 months.
- ✚ Advise the parents to offer their children a variety of foods, including dark green leafy vegetables, beans, and meat (chicken, beef, pork).
- ✚ Encourage the client to have a diet containing vitamin C (sweet peppers, dark leafy greens, oranges, tomatoes, peas, and papayas), which helps in the absorption of iron.
- ✚ Encourage clients to prevent (or at least promptly treat) infections and infestations, especially malaria, hookworm, and respiratory infections.

Overnutrition

Overnutrition (the condition of being overweight or obese) results from:

- ✚ Eating too much
- ✚ Not exercising enough
- ✚ Taking too many vitamins or other dietary replacements
- ✚ Certain illnesses or metabolic disorders

ANNEX: SUPPLEMENTARY NOTES ABOUT NUTRITION

Nutrition and key terms related to nutrition

- Nutrition
- Food
- Balanced diet
- Nutrients
 - Macronutrients
 - Micronutrients

- *Nutrition* is a process by which food and drink is taken, digested, absorbed, and used by the body for normal growth, development, and health.
- *Food* is any substance solid/semi-solid/ liquid taken into the body to provide one or more nutrients.
- *Balanced diet* is a variety of foods and drinks that when eaten, provide all the nutrients the body needs in the right amount and quality for body nourishment.

Nutrients are nourishing substances or components of food and are divided into:

- *Micronutrients* are nutrients needed by the body in very small amounts and include vitamins and minerals.
- *Macronutrients* are nutrients needed by the body in large quantities and include carbohydrates, fats, and proteins.

Importance of Nutrition

Nutrition is required for the following reasons:

- Developing, growing, maintaining, replacing, and repairing cells and tissues.
- Resisting and fighting infection and recovering from illness.
- Producing energy, warmth, movement, and work.
- Carrying out chemical processes, such as digestion.

Essential nutrients used by the body

- Carbohydrates
 - Fats Energy foods
 - Sugar/sugary foods
- Proteins
- Vitamins
- Minerals
- Water

Carbohydrates and fats (energy)

- These are energy-giving foods. Energy is required to provide strength for all functions of the body (movement, work, and existence).
- Fats are rich sources of energy but not rich in other nutrients. Under normal circumstances, fats should be consumed in small quantities.
- Fats aid the absorption of fat soluble vitamins.
- Sugars are carbohydrates and many of the sources are not rich in other nutrients.

Proteins

Proteins are referred to as body-building foods and are required for:

- Growth and development.
- Maintenance and repair of tissues and replacement of worn-out or damaged tissues.
- Production of metabolic and digestive enzymes.
- Make up of certain hormones and all cells and tissues.

Vitamins

Organic compounds that perform specific metabolic functions in the body:

Fat soluble vitamins are stored by the body and include vitamins A, D, E, and K.

Are necessary for development and maintenance of body tissues and their functions, e.g.:

- Vitamin A for the eyes
- Vitamin D for the bones

- Vitamin K for blood clotting
- Vitamin E for protection of cells

Water soluble vitamins are not stored in the body, are entirely derived from daily diet, and include vitamin B-group and vitamin C.

Minerals

- Minerals, also known as trace elements, are inorganic compounds not produced by the body, are derived from foods, and are essential for health and well-being. They include iron, zinc, calcium, and iodine.
- Iron helps the transfer of oxygen to various tissues.
- Calcium is a key component of bones and teeth.
- Iodine for thyroid function and mental development in children.
- Zinc is important to enhance and strengthen the immune system and helps in wound healing.

Water-soluble vitamins

- Support use of macronutrients
- Synthesis of red blood cells
- Vitamin C aids in the absorption of iron

Water

Water is an essential nutrient necessary for body functions, including digestion, absorption, and certain metabolic processes.

Food Groups

Foods can be categorized into three main groups and include:

- “Go” group (energy foods)

Common food sources of energy include: grains/cereals, roots, starchy fruits and sugar/sugary foods, oils and fats.

Whole grains	Refined grains
Millet flour	Corn flakes
Sorghum flour	White wheat flour
Whole wheat flour (brown)	White maize meal
Whole maize meal (brown)	White rice
Brown rice	White bread
Whole wheat bread	

Sugar/sugary foods

- Table sugar
- Honey
- Jam
- Biscuits
- Cakes
- Sugary drinks (soda beverages, artificial juices)
- Many of these sources are not rich in other nutrients (empty calories)

Oils (Liquids)	Fats (Solids)
Plant source: sunflower, soybean, corn/maize, cotton seed, ground nut, olive	Animal origin: milk fat (ghee), butter, beef fat
	Plant origin: margarine, kimbo, cowboy, coconut oil
<p>Most oils from plant sources do not contain cholesterol. Excessive consumption may lead to overweight and obesity.</p>	

“Grow” group (body building foods)

These are foods rich in proteins.

Animal source	Plant source
Meats: beef, mutton, lamb, pork, veal, rabbit, edible rats	Beans and peas: back beans, soy beans, black-eyed peas, kidney beans, white beans
Organ meats: liver, intestines	Nuts and seeds: peanuts, pumpkin seeds, sunflower seeds, cashew nuts
Poultry: chicken, duck, goose, guinea fowl, turkey eggs	
Fish: silver fish, Nile perch, tilapia, mud fish	
Dairy products: milk, cheese, yoghurt, whey	

“Glow” group (protective foods)

These are foods rich in vitamins and minerals (fruits, vegetables, and iodized salt)

- **Fruits**

Commonly eaten fruits include bananas, pineapples, papaya (pawpaw), mangoes, guavas, oranges, jackfruits, tangerines, apples, brother hearts)

Wild fruits (tamarinds, berries, wild grapefruits, etc.)

Mixed fruits: Fruit cocktail

Fruit juice: passion, oranges, apple, pineapple, melon, grape, grapefruit, hibiscus)

- **Vegetables**

Dark green leafy vegetables: spinach, dodo/amaranth, Sukuma wiki, cowpea leaves, pumpkin leaves, cassava leaves, fresh cowpeas leaves, field peas leaves, immature corn, green bananas, green peas leaves, yam leaves, sweet potato leaves, broccoli, lettuce, hibiscus leaves (malakwang)

Red & orange vegetables: Carrots, pumpkin, red peppers, sweet potatoes, tomatoes, tomato juice, red amaranth, red hibiscus

Other vegetables: Avocado, beet roots, cabbage, eggplant, cucumbers, cauliflower, green beans, green peppers, mushrooms, okra, onions, bean sprouts, celery

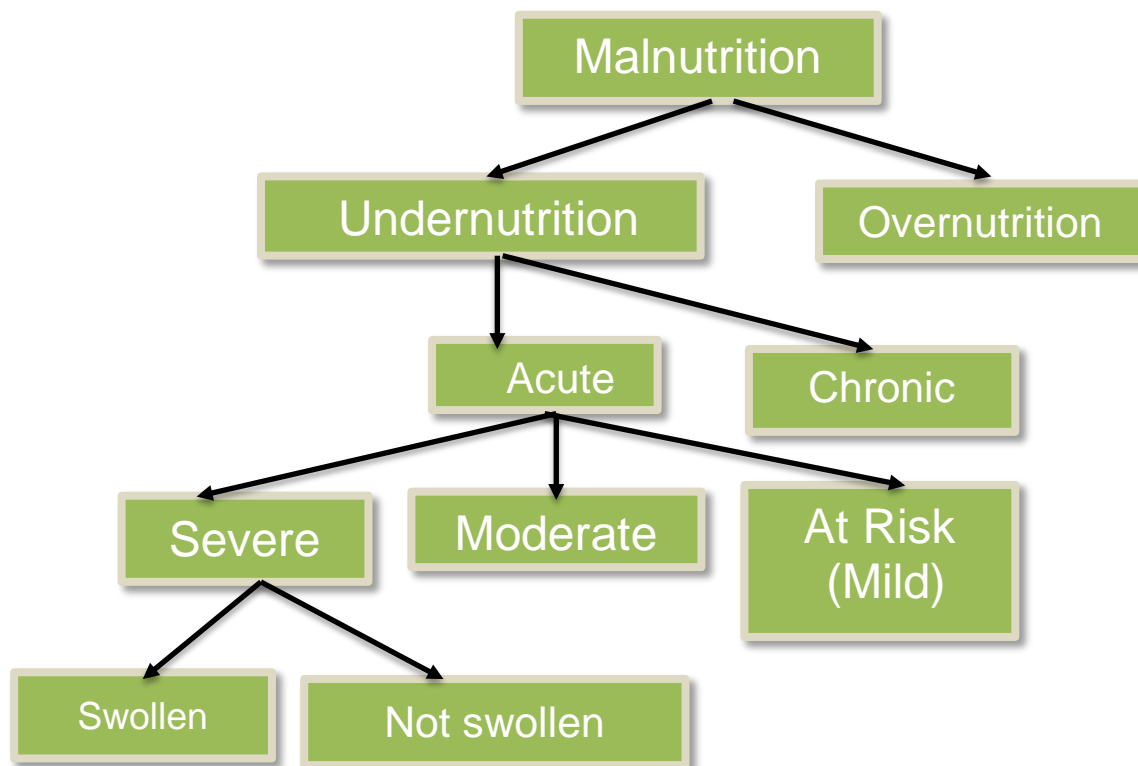
Wild vegetable: (e.g., wild cucumber)

- Iodized salt

The meaning of malnutrition

Malnutrition is the condition that develops when the body does not get the right amount of the nutrients for proper growth and functioning of the body.

Types of Malnutrition



Common micronutrient deficiencies

- Iron deficiency
- Vitamin A deficiency
- Iodine deficiency disorders
- Zinc deficiency

Overnutrition

Overnutrition results from:

- Eating too much
- Not exercising enough
- Taking too many vitamins or other dietary replacements

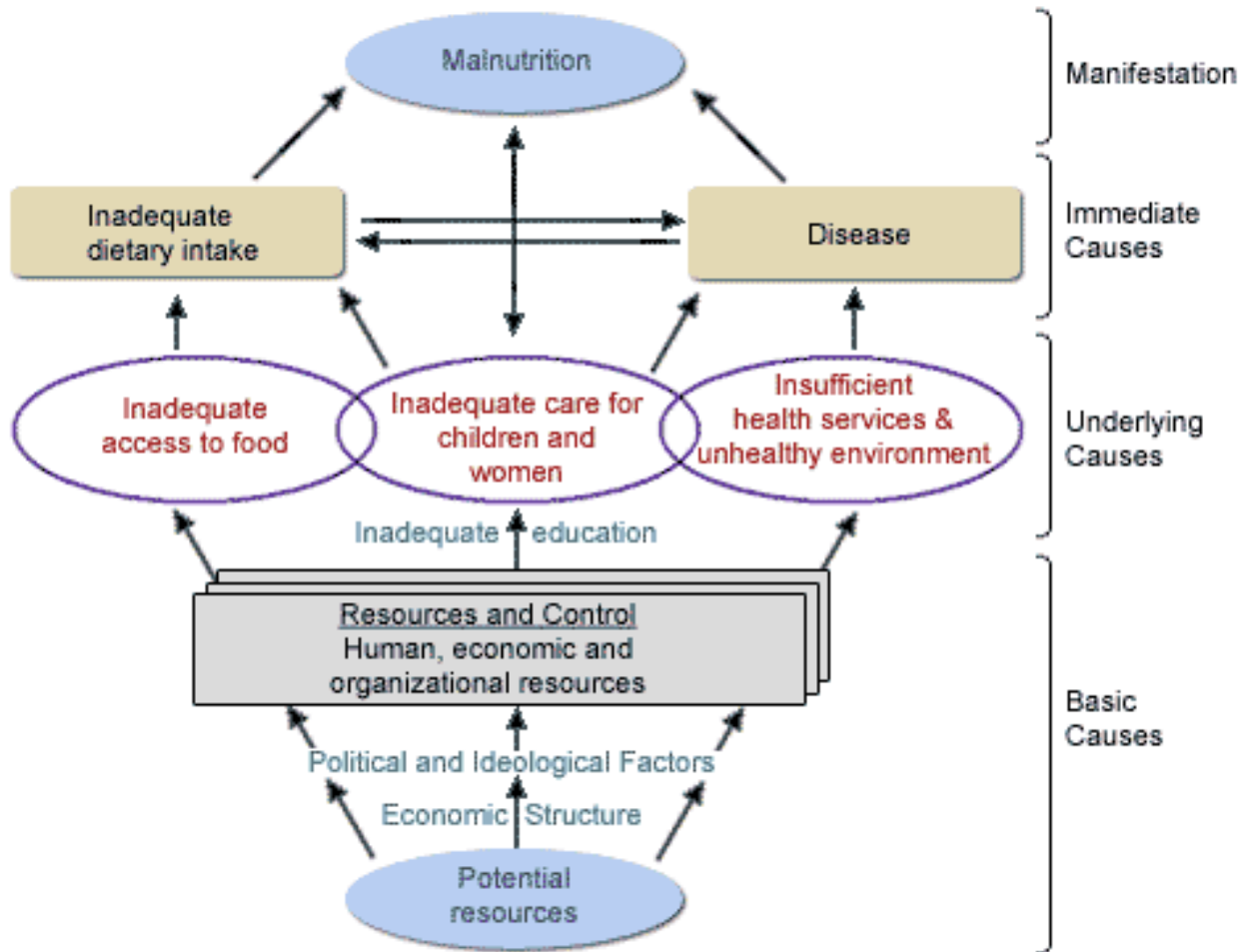
- Certain illnesses or metabolic disorders.

Overnutrition results in overweight and obesity or vitamin toxicity.

Contributing factors

- Eating habits: consumption of sugary and highly processed foods and drinks, large portion size, alcoholism, lack of fruits and green vegetables in the diet, fried foods.
- Metabolic factors (hormonal imbalance)
- Lack of physical activity (sedentary life style)
- Psychological factors (stress, relationship breakdown, bullying of children)
- Environmental factors (educational attainment, income, relationships)
- Medication (steroids, anti-depressants, anti-psychotics, anti-seizure drugs, some ARVs)
- Genetic factors

Causes of Malnutrition



Consequences of Undernutrition

- ❑ High child mortality, disease, and disability
 - A severely stunted child faces a four times higher risk of dying.
 - A severely wasted child is at a nine times higher risk of dying.
 - Stunting is associated with poor school achievement and performance.

ANAEMIA

Anaemia is a decrease in the number of red blood cells or haemoglobin in the red blood cells.

It occurs as a result of increased blood loss. It may also be caused by reduced intake of iron.

It is also common in children and pregnant mothers.

Causes of anaemia

Anaemia may be caused by any of the following:

- ✚ Malaria infection
- ✚ Hookworm infestation
- ✚ Blood loss due to injuries
- ✚ Heavy menstruation
- ✚ Nasal bleeding
- ✚ Diet low in iron
- ✚ Sickle cell disease

Signs and symptoms

- ✚ Pale skin of the lips, eyes, palm, and the tongue
- ✚ Tiredness
- ✚ Dizziness
- ✚ Headache
- ✚ Rapid breathing
- ✚ Heart palpitations (feeling of the heart beating)
- ✚ Oedema (swelling of the legs)

General measures

- ✚ Advise the client to eat dark green leafy vegetables, e.g. Nakati, Bugga, etc.
- ✚ Deworm children every 3 months.
- ✚ Advise the parents to offer a balanced diet for their children.
- ✚ Encourage the client to have a diet containing vitamin C (oranges), which helps in the absorption of iron.

Management

Refer all clients to health facility for further assessment.

Prevention of anaemia

Improved nutrition: Give foods rich in iron and vitamins, e.g., vegetables, fruits, meat, liver.

Prevention or prompt and effective treatment of infections and infestations, especially malaria, hookworm, and respiratory infections.

Methods of assessment for nutrition

Nutrition can be assessed by using the following methods:

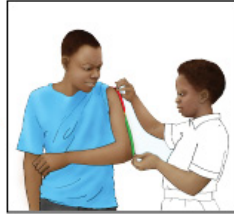
- Clinical assessment
- Measurement of mid upper arm circumference (MUAC)
- Assessing the body mass index (BMI)
- Weighing the client

Target Groups for MUAC Measurement

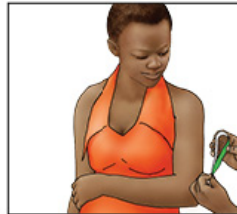
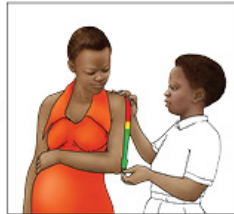
Infants from 6 months
& Children



Adolescents & Adults



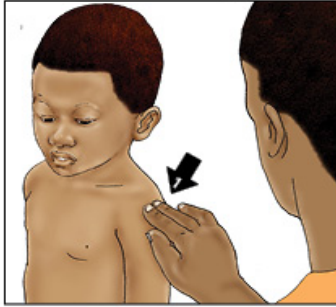
Pregnant & Postpartum
Women



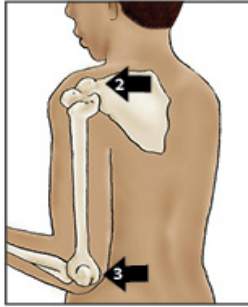
Card 4

How to Measure

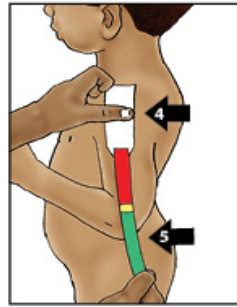
Steps to accurately use a MUAC tape



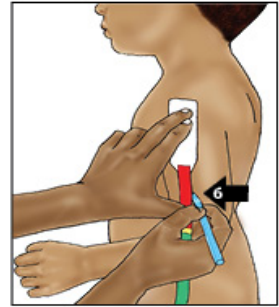
1. Bend left arm at angle of 90 degrees



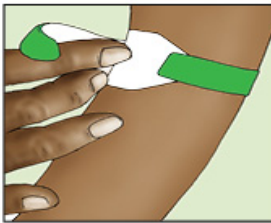
2. Locate tip of shoulder
3. Locate tip of elbow



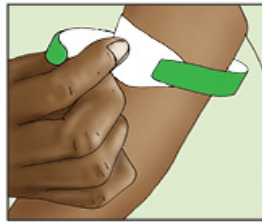
4. Place tape at 0 cm at tip of shoulder
5. Pull tape past tip of bent elbow and read length of upper arm



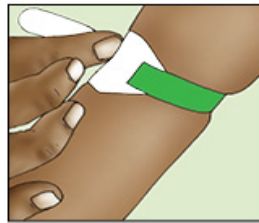
6. Determine mid-point by:
- Folding the tape in half from "0" to the measured length OR
- Calculating
7. Mark mid-point using finger or pen



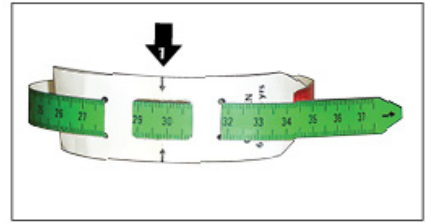
8. Straighten arm and place MUAC tape around the mid-point
9. Place MUAC tape through window of tape, and correct the tape tension



Tape too Loose

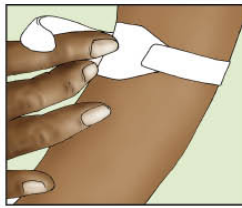


Tape too tight



10. Read the cm measurement in the window at arrow
11. Record measurement and the color zone observed

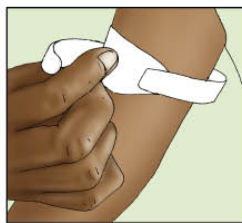
How to Adjust and Read a MUAC Tape



Correct tape tension

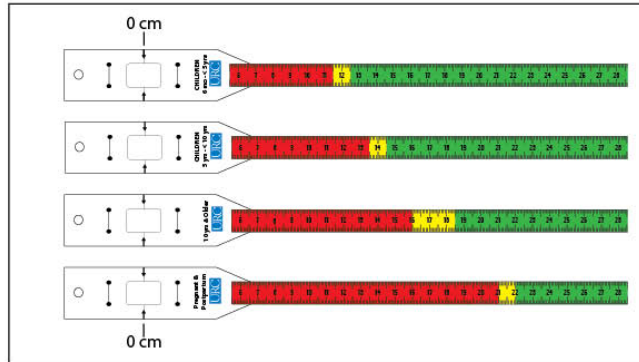


Tape too tight

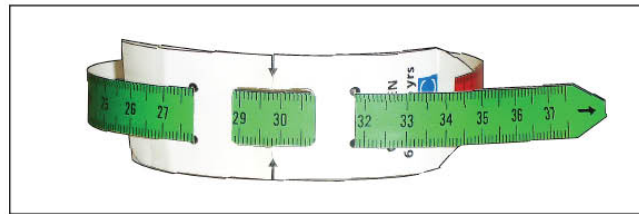


Tape too Loose

Mid Arm Circumference "Insertion" Tapes



Read the cm measurement in the window at arrow



How to Make a Decision on the Nutrition Status of a Client

	Severe	Moderate	Normal
Age group	MUAC (cm)		
6 months to <6 yrs.	< 11.5	11.5 to ≤ 12.5	12.5-13.5
6 years to <10 years	≤ 13.5	13.5 to ≤ 14.5	NA
10 years to <18 years	< 16.0	16.0 to ≤ 18.5	NA
Adults (≥ 18 years) & Pregnant & mothers with infants up to 6 months old	<19.0	19.0 to ≤ 22	NA

Clinical assessment

Check for swelling of both feet. Press thumbs on top of both feet and hold for several seconds. If dents in the skin remain when you pull your fingers away, this is a sign of oedema (swelling) and severe malnutrition.

Assessing the Growth Promotion Chart

Growth charts of children given in hospitals at birth help to assess progress of the child by plotting the weight of the child at different times. The ADS seller can use it to assess the weight and compare with the plotted weight of an average child.

Counselling for Nutrition

Counselling is an interpersonal communication through which a person is helped to assess his/her current situation, explore his/her feelings so as to come up with a solution or cope with a problem.

Counselling therefore involves:

- Helping a person share his/her problems by expressing his/her concerns.
- Giving factual information about a problem.
- Guiding a person through various interventions to address life's problems.
- Exploring possible plans of action to reduce risk or resolve problems.
- Helping a person to make informed decisions.
- Helping the health worker to understand the feeding practices of the client.
- Helping in knowing possibilities for food availability and preparation.
- Helping the client know the what and why of the feeding problem and the consequences.
- Helping in listing actions to overcome or reverse the problem/challenge.
- Helping the client have self-confidence and trust.

The GATHER approach in counselling

The approach uses the following steps:

1. **Greet** the client (and develop a talking relationship).
2. **Ask** how the client feels about his/her nutritional status and food intake.
3. **Tell** the client about alternative choices to address his/her nutritional problem(s).
4. **Help** the client make informed choices.

5. **Explain** fully the choice(s) the client has made.
6. **Reassure** and give a return date for the next visit.

When counselling, the ADS seller should bear the following in mind:

- Accept what a client thinks and feels.
- Recognize and praise what is right.
- Give practical help.
- Provide relevant information using suitable and simple language.
- Make suggestions rather than comments.
- Arrange follow-up and ongoing support.