TRAINING MODULE
FOR
COMMUNITY HEALTH OFFICERS
ON
MANAGEMENT OF ACUTE SIMPLE ILLNESSES

December 2022

CONTENTS

CHAPTER 1:

INTRODUCTION

What are acute simple illnesses?

These are a group of conditions presenting with symptoms of varying degrees of severity, which are sudden in onset, of short duration, rapidly progressing, and in need of urgent care, but which do not pose an immediate threat to life. Examples include fever, diarrhea, vomiting, skin abscess, hemorrhoids, etc.

They must not be confused with emergency health conditions, which are life-threatening and require immediate medical care to save the life of the person, e.g., myocardial infarction, eclampsia, burns, severe trauma to the head, etc. In contrast, chronic illnesses are those which have long-developing symptoms or syndromes, ranging from non-communicable diseases like osteoarthritis to chronic infectious diseases like tuberculosis and leprosy.

Many patients will present to the SHC-HWC with symptoms of acute onset. Your assessment of the patient: their general condition, vitals, etc. will reveal whether the patient requires immediate medical care or urgent emergency referral to a higher center to save their life. All presentations other than this will constitute Acute Simple Illnesses.

In this module, you will learn about groups of acute medical, skin, surgical conditions and obsteritic/gynaecological condition that may commonly present to you in the SHC-HWC, and their management including treatment, follow up and referral.

CHAPTER 2

CLINICAL EVALUATION

Clinical evaluation is essential to assess the illness. The clinical evaluation of a patient comprises of two major aspects:

1. History taking
2. Comprehensive physical examination

History taking:

The history of illness should include all the events related to illness in the chronological order and in a detailed way. It is the first step towards the development of a relationship with the patient. The patients are encouraged to narrate his/her condition in detail, so that clinical evaluation can be done. It also helps to build rapport with the patient.

It includes:

- History of present illness
- Occupational history
- Personal history
- Past history
- Family history
- Drug /treatment /allergy history

Fig 1: History taking

Table 1: Basics of history taking
■ Name, age, occupation
■ Main presenting problem
■ Past medical history – *'I need to ask you to tell me about any serious medical problems that you have experienced in the past'*
■ Specific past medical history – e.g. diabetes, jaundice, TB, heart disease, high blood pressure, rheumatic fever, epilepsy
■ Family history
■ Smoking, alcohol, allergies
■ Drug and other treatment history
■ Direct questions about bodily systems not covered by the presenting complaint

During the history taking, careful observation of the patient is also required which may guide you to the diagnosis. For example:

- A squeezing gesture describes cardiac pain
- Hand position on the flank to describe renal colic
- Rubbing the sternum to describe heartburn
- Rubbing the buttock and thigh to describe sciatica
- Arms clenched around the abdomen to describe mid-gut colic

Patients with various diseases present with some common symptoms. It is possible to relate the symptoms to the diseases of the organ system in which the disease is occurring. The following table describes the common symptoms which represent the organ system to which it belongs.

Table 2 : Common symptoms patients present with related to the organ systems

Cardiorespiratory	Gastrointestinal	Genitourinary	Neurological
• Chest pain (including radiating) • Palpitation • Ankle swelling • Nocturnal dyspnoea • Shortness of breath • Cough with or without sputum • Haemoptysis	• Abdominal pain • Dyspepsia • Dysphagia • Nausea and/or vomiting • Degree of appetite • Weight loss or gain • Bowel pattern and any change • Rectal bleeding • Jaundice	• Dysuria • Nocturia • Frequency • Haematuria • Menstrual irregularity – women • Urethral discharge – men	• Seizures • Collapse • Dizziness • Eyesight • Hearing • Changes related to smell/taste • Impairment of higher function (speech, gait, orientation to time,place and person) • Paraesthesia

Comprehensive physical examination :

Physical examination is done at a place that is comfortable to the patient , privacy should be ensured and dignity of the patient should be maintained. It has to be a comprehensive examination from head to toe. It should be done preferably in day light rather than artificial light if possible.

Table 4 :

	Degree Celsius	Degree Fahrenheit
• Normal temperature	36.6-37.2	98-99
• Febrile	> 37.2	>99
• Hyperpyrexia	> 41.6	>107
• Subnormal	< 36.6	< 98
• Hypothermia	< 35	< 95

Temperature • Recorded in the mouth, axilla, ear or rectum • Normal temperatue-36.6-37.2° c	**Pulse** • Rate,rhythm and character • Normal pulse- 72/min
Respiration rate(RR) • Rate,rhythm and character • Normal RR-15/min	**Blood pressure (BP)** • Measuring systolic and diatolic BP • Normal BP-120/80

General examination: Look into the following

- Overall appearance (well, unwell, severely ill, neglected or well-cared)
- Posture and gait
- Nutrition, obesity, oedema
- Skin colour, cyanosis, jaundice, anaemia
- Skin lesions (petechiae ,vitiligo, purpura-Fig 2)
- Body hair (distribution, quantity)
- Vital signs (temperature, pulse, respiration rate, blood pressure)

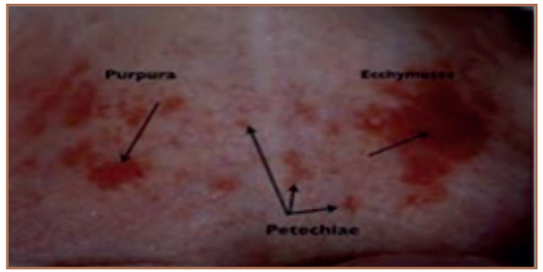


Fig 2: Skin lesions

Local examination: It is done to look into specific cause for the symptoms. Head to toe examination needs to be done to know the cause.

- Eye
  - ➢ Look for pallor (at the lower conjunctiva , tongue and nail bed)
  - ➢ Look for jaundice
- Mouth and pharynx
  - ➢ Examine the lip, tongue (ask to protrude), teeth, gums, buccal mucosa and tonsils
  - ➢ Check for the odour
- Hands
  - ➢ Look for clubbing, tremor, wasting, shape of the nail , splinter haemorrahages, and nicotine stains

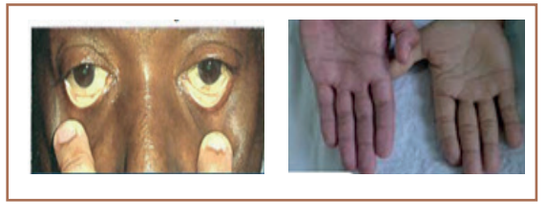


Fig 3: Sites to look for pallor

- Neck
  - Look for any swelling
  - Look for the pulse
  - Look for any palpable, swollen nodes
- Chest
  - Look for any lymph nodes, symmetry of the chest, scars, dilated vessels,breasts, nipples
  - Tracheal position
  - Auscultate for the breath and heart sounds
- Abdomen
  - Look for the size, distension, asymmetry, scars, and abdominal wall movements
  - Look for tenderness, rigidity and any masses
  - Hear for any abnormal sounds
- Upper limbs
  - Look for wasting, sensation and swelling
- Lower limbs
  - Look for edema, wasting, ulceration, varicose veins, swelling and pulse

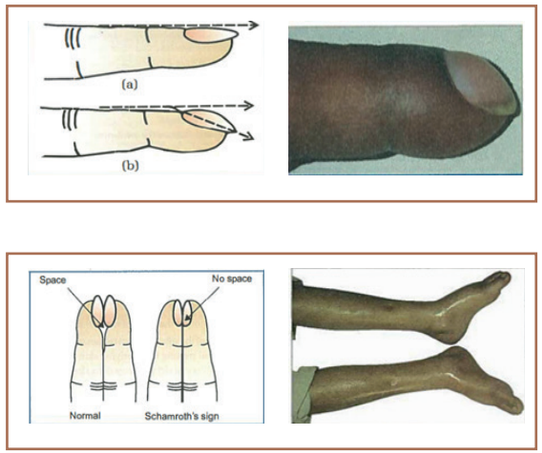


Fig 4: Clubbing and bilateral pitting edema

History taking and physical examination together provide information for the assessment of the patient's problem . These form the tool for the probable diagnosis.

CHAPTER 3

COMMON MEDICAL CONDITIONS

3.1 FEVER

Definition – Fever is technically an increased body temperature above normal (98.6^{0}F or 37^{0}C). However, significant fever for clinical purposes is defined as a body temperature above 38^{0}C (100.4^{0}F). It is also known as pyrexia or febrile response; and is usually a common medical sign of an underlying condition, most commonly an infection.

Is fever a disease? – Fever is produced as a result of the body's defense mechanism towards harmful contagions like bacteria, viruses, or drugs. Therefore, fever itself is not an illness but a sign of an illness and should be taken as a warning sign.

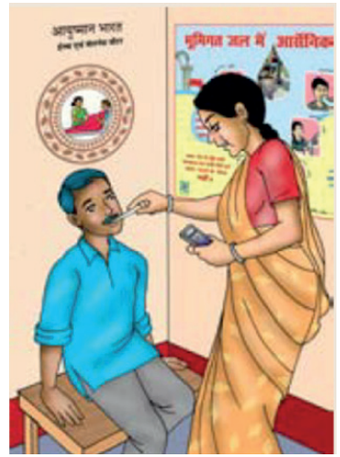


Fig 5: Fever

Types – Different types of fever depend on the underlying condition or illness. Continuous fever (body temperature does not touch baseline) is commonly seen in systemic infections like common viral and bacterial infections, and intermittent fever is seen in some acute infections like malaria, tuberculosis, brucellosis.

The body temperature of a person varies for different sites of the body (oral, axillary, rectal are the most common), even when taken at the same time. Rectal temperature gives more accurate readings of body temp than axillary and oral but is culturally not acceptable.

Most common causes of fever

1. **Infections and infectious diseases** (bacterial, viral, protozoal, etc.) such as tuberculosis, typhoid, influenza, malaria, and gastroenteritis. Infections are the most common cause of fever
2. **Medicines** such as antibiotics, narcotics, barbiturates, antihistamines, and **vaccines** such as DPT. These cause "drug fevers" due to adverse reactions, withdrawal, or by the drug's design
3. **Trauma or injury** such as a heart attack, stroke, heatstroke, heat exhaustion, or burns

4. Other medical conditions such as skin inflammation, arthritis, hyperthyroidism, some cancers, lupus, metabolic disorder, gout, and embolisms, etc.

Normal physiological factors influencing the body temperature

- Exercise causes increased body temperature
- Sleeping- Overall metabolic activity in the body decreases during sleep, and body temperature decreases slightly
- Diurnal variation- Our body temperature is usually highest at around 6 pm and lowest at about 3 am
- High environmental temperature increases body temperature by heat conduction

Approach to evaluation and management of high-grade fever

Measurement of body temperature is necessary for the identification of fever. Patients may have a false feeling of having fever or sometimes they may not recognize the fever when they visit to SHC-HWC for some other symptoms. Merely touching the forehead does not accurately confirm the presence or absence of fever. **A digital thermometer** present at the SHC-HWC should always be used to check the patient's body temperature. Sometimes it may happen that before coming to the SHC-HWC patient might have taken some medication to lower the temperature. Here the drug history becomes important. In intermittent fever like in malaria, the patient may come to you in the afebrile period. So, only examining the temperature is not important both history and examination has equal value in the management.

1- A **detailed history** regarding the patient's chief complaints may help you to identify or localize one single (such as any wound, swelling, ulcer or pain, decreased mobility at a particular location) cause. Some diseases with no localizing signs may also cause fever (e.g., HIV-AIDS, cancers).

If you can localize the illness, further assessment to identify the cause becomes easier. If there are no localizing symptoms, then ask direct questions in detail about symptoms of all the major systems from head to toe as follows:

- *Central Nervous System*- Headache, dizziness, seizures, unconsciousness, altered sensorium, projectile vomiting, loss of balance during walking, fainting
- *Ears*- Earache, ear discharge, foreign body, hearing loss, swelling or pain near ears, loss of balance during walking, ringing in ears
- *Eyes*- Blurring of vision, pain, excessive watering, discharge, redness
- *Sinuses, nose and upper respiratory tract*- Pain between two eyebrows, or over the cheek, pain in the forehead on bowing head down, nasal discharge, pain or swelling or itching inside nose, throat, difficulty in swallowing, hoarseness of voice

- *Oral cavity*- foul-smelling breath, toothache, loose teeth, oral ulcers, bleeding from gums and teeth ,pain during swallowing in the throat, itching in the throat
- *Skin*- any rash anywhere, swelling over face, legs or generalized swelling all over the body, thrombophlebitis (if there was any IV cannula, IV injection given recently), any small nodular swelling (lymph nodes) or pus discharge, pustule near hair follicles especially in the scalp, axilla, groins, genitalia, any swelling or pus collection near nailbed, etc.
- *Respiratory System (Airways, Lungs, Pleura)* - Cough, chest pain at rest and on deep inspiration/ coughing, increased respiratory rate, pain over ribs near the sternum (costochondritis)
- *Cardiovascular System*- Palpitations, increased heart rate, chest pain (including radiating pain), dyspnoea on exertion, excessive sweating
- *Gastrointestinal System*- Inability to swallow (dysphagia), vomiting, heartburn, lump in the abdomen, distension of abdomen, any localized or diffuse pain in abdomen, diarrhea, blood in stools, pain during defecation, discharge near the anus
- *Hepatobiliary system*- Jaundice, pain or lump in right upper abdomen, vomiting
- *Genitourinary System*- Burning micturition, urgency, frequency, lower abdominal pain, pain in abdomen-back and flanks, blood in urine, vaginal or penile discharge
- *Musculoskeletal system*- Pain, swelling or decreased movements over large or small joints or muscle groups, pain near or on the vertebra, other bony pains

2-**Head to toe examination:** A thorough physical examination is necessary to assess the cause of fever, which will supplement the history given by the patient. Examine the eyes, ENT, oral cavity, skin, nails, look for enlarged lymph nodes, and examine the respiratory system, cardiovascular system, and abdominal examination.

Differential diagnosis of fever

A fever with only localizing symptoms and signs pertaining to a single locality/ site/ organ commonly indicates the presence of an infective process at that site. E.g., fever with burning micturition (Urinary Tract Infection), fever with increased respiratory rate and cough, chest pain (Pneumonia or Lower Respiratory Tract Infection), fever with diarrhea, nausea, vomiting (Acute Gastroenteritis), fever with headache and neck rigidity (Meningitis), fever with jaundice, nausea and abdominal pain (Hepatitis), etc.

The non-localizing fevers with generalized or systemic symptoms are more often caused by viral or protozoal infections. E.g. Influenza, Dengue, etc. Other causes could be bacterial infections (Extrapulmonary TB that is not identified, Typhoid fever, etc.), protozoal infections (Kala-azar, Malaria, Filariasis, etc.), Cancers, HIV-AIDS, etc.

The various common illnesses which present with fever are given in the **Annexure 1**

Diagnosis and management at SHC-HWC level

What can you do independently:

The most important step is to **assess the cause of fever**. Depending on the history and clinical findings, rapid diagnostic tests for malaria/dengue/ filaria (endemic areas) may be done at the SHC-HWC. Sputum examination (AFB) and urine examination is done to confirm TB and urinary tract infections.

Treatment

1. Give Tab. Paracetamol 500-650 mg oral stat (adult dose); may be repeated 6-8th hourly. For children give syrup paracetamol 15mg/kg/dose 6-8 hourly. This helps reduce the body temperature and provides relief to the patient.
2. Advise moderately cold water sponging and bed rest.

When to consult the PHC MO:

- Localized bacterial infections can be treated with antibiotics (Annexure 2) at the SHC-HWC level as per the guidelines after consultation with the PHC MO.
- **Source control of infection is the principle of treatment.** Infections of the ear, nose and upper respiratory tract with indicated antibiotics can be done as per guidelines for the expanded package of services. Drainage of abscess can be done under the guidance of medical officer.

When to refer to PHC MO:

- Patients with signs of shock (look for pallor, cold clammy skin, rapid pulse)
- The fever lasts longer than three days- negative for malaria, dengue, negative for any localized infection, and not resolved with medicines
- Fever with swelling all over the body
- Fever with jaundice
- Fever with multiple nodular swellings over axilla, groins, neck
- Fever with severe headache, stiff neck, seizures [Meningitis/ Acute Encephalitis Syndrome (AES)]
- Fever with shortness of breath (Severe Pneumonia/ respiratory distress)

- Fever that has not resolved since more than 2-3 weeks or other unusual signs or symptoms

For non-localizing fevers of mild nature, when hidden infection sites are screened out, viral infections should be kept as the most common differential diagnosis, and only symptomatic care is needed for mild illnesses. Management protocol for different febrile illnesses is given in **Annexure 1**.

3.2 COUGH

Cough is an important defensive reflex that enhances the clearance of secretions and particles from the airways and protects the lower airways from the aspiration of foreign materials. However, repetitive bouts of cough usually are a result of some inflammatory process of the respiratory system, which can either be due to **infection** of the respiratory system (e.g., tuberculosis, pneumonia, etc.) or due to irritants like smoke, dust particles, pollen grains, etc.

Types of cough and causes

Table 5: Classification of cough according to duration

Type	Duration	Probable Cause
Acute cough	Cough lasting for less than 3 weeks	***Infectious (with Fever)*** • Bacterial/viral respiratory tract infection including laryngitis, pharyngitis, bronchitis ***Non-Infectious:*** • Inhaled foreign body • Inhaled toxic fumes ***Acute Exacerbation of Chronic Respiratory Diseases*** • Asthma • COPD • Bronchiectasis
Subacute cough	Cough lasting for 3-8 weeks.	• Following specific bacterial infections • An increase in bronchial hyper-responsiveness may persist (allergy) • Tuberculosis

Type	Duration	Probable Cause
Chronic cough	Cough lasting for more than 8 weeks	• Tuberculosis • Asthma- especially cough-variant asthma • Chronic Obstructive Pulmonary Disease • Smoking • Gastro-oesophageal reflux disease (GERD) • Drugs- ACE inhibitors e.g.: enalapril, captopril, etc. • Environmental- Exposure to organic or inorganic fumes/ irritants

The cough can be of two types according to the expectoration. The cough can be with scanty expectoration which is generally seen in allergic conditions. The expectoration can be copious in the conditions of exposure to certain chemicals etc. In certain conditions the expectrations can be blood stained also.

Diagnosis at the SHC-HWC level

- History regarding duration of cough, type and nature of cough, history of expectoration with blood should be taken
- History of any existing illness like tuberculosis, history of shortness of breath, medications, and habits like smoking, etc should be taken.
- After history taking, confirm your differential diagnosis with physical findings.
- Physical examination- should include:

  -General condition- whether a mild illness or severely ill, whether normal respiration or respiratory distress, etc.

  -Vitals including axillary temperature, respiratory rate, SpO2, pulse, and blood pressure

  Respiratory rate is an important marker of the respiratory distress especially in children. Classification of the child according to the respiratory rate to the category of no pneumonia, pneumonia or severe disease is required.

Table 6: Respiratory rate classification for pneumonia

	Respiratory Rate
Less than 2 months	>60
2 months to 12 months	>50
One year to 5 years	>40

- Look for rate and pattern of respiration, accessory muscles of respiration
- Look for clubbing, cyanosis, lymphadenopathy, and edema
- Check air bilaterally, auscultate for any abnormal breath sounds.

- Investigations: Sputum for AFB(in suspected cases), complete blood count, hemoglobin testing.

Differential diagnosis of cough and management at SHC-HWC

- The following table would help you to pick up groups of symptoms related to some common and/or important diseases and gives a guide to do necessary actions.

Table 7: Action points for management at the level of SHC-HWC by the CHO: Cough

Clinical features	Probable Diagnosis	Action		
		What can you do independently	What can you do in consultation with PHC MO	When to refer
-Watery nasal discharge , sneezing for 1-2 days followed by mild cough,thick nasal mucoid discharge -History of exposure to cold weather -Not associated with pain in the throat or difficulty in swallowing	Common cold (viral) with cough - more common in children than adults	Advise on -Steam inhalation - Gargles with salt water - Episodes usually resolves in 4-7 days and do not need any medicines - Antihistaminics like Tab.CPM or cetirizine can be given (dose is given below) - Never give any antibiotics for this condition		- Refer to nearest PHC if symptoms don't subside by initial treatment for 48 hours -Persistent cough does not subside after week of treatment -Abnormal breath sounds (Respiratory distress)

Clinical features	Probable Diagnosis	Action		
		What can you do independently	What can you do in consultation with PHC MO	When to refer
Episodes of dry cough without fever and with a history of the appearance of symptoms after exposure to irritant	-Allergic mild upper respiratory illness -Pharyngitis -Laryngitis	- Advise to avoid irritants - Steam inhalation - Give Tab. Chlorpheniramine (CPM) -Children: 1-2 years age 0.5 mg for 3 to 4 times a day; 2-5 years age 1 mg for 3 to 4 times a day; 6-12 years age 2 mg for 3 to 4 times a day **(maximum 12 mg/day)** -Adults: 4 mg for 3 to 4 times a day **(maximum 24 mg/day)**		- Refer if symptoms do not subside by initial treatment
History of allergy and similar episodes in past, history of the appearance of symptoms after exposure to an irritant, runny nose, sneezing, etc.	Allergic Bronchitis			
-Repeated attacks of breathlessness with cough, wheezing, with or without fever and -History of Asthma	Bronchial asthma (BA) and infection bronchitis in patients with BA	- Counsel on avoidance of exposure to the allergens		-Refer to nearest PHC for evaluation and confirmation of diagnosis and initiation of treatment
-Fever, rapid breathing -cough with or without sputum for less than a week	Pneumonia more common in children under 5 years of age	Symptomatic treatment for cough and fever with paracetamol and Tab CPM	Teleconsult with PHC MO for confirmation and referral.	Referral and hospitalization for sick patients - Follow IMNCI guidelines for under-5 children with pneumonia
Cough is with sputum which is yellowish, pus-like -Fever	Acute bronchitis or bronchiolitis	Symptomatic treatment for cough and fever with paracetamol and Tab CPM	Teleconsult with PHC MO for confirmation and referral.	Referral and hospitalization for sick patients

Clinical features	Probable Diagnosis	Action		
		What can you do independently	What can you do in consultation with PHC MO	When to refer
Intermittent fever, cough more than 2 weeks blood in sputum and/ or loss of weight and appetite	Pulmonary tuberculosis	-Sputum collection for AFB -Symptomatic treatment for cough and fever -Follow up of the patient once treatment initiated		Refer to to nearest PHC for further management -Sputum microscopy and CBNAAT testing at the next nearest health facility, chest x-ray, evaluation by MO -Registration, counselling -Start treatment according to NTEP guidelines
Dry cough, chest pain, intermittent fever, and weight loss	Pleural tuberculosis			
-Fever -Cough with a large quantity of sputum (sometimes blood-stained),foul-smelling, associated breathlessness and chest pain	Lung abscess or bronchiectasis	- Give symptomatic treatment for pain; use PCM, Ibuprofen, etc -Check blood sugar and rule out diabetes - Evaluate for the presence of other conditions such as anemia, hypertension, etc., -Evaluate for undernutrition and any signs of vitamin deficiency - Counselling and help to stop smoking -Follow up once treatment is initiated		- Refer to to nearest PHC for further evaluation - Patient must get a chest x-ray, sputum microscopy, and blood tests, and may need a CT scan, CBNAAT, or other tests
-Subacute or chronic cough with or without sputum,with no fever, May have wheezing, especially if the patient is a chronic smoker, no other relevant history could be obtained	Chronic bronchitis or COPD or Emphysema or Interstitial lung disease or Heart failure			
-Weight loss, loss of appetite, -Chronic cough with progressively increasing breathlessness, coughing of blood in late stages, -Chest pain, -Lymphadenopathy in axillary and cervical (neck) region	Lung cancer			

For any patient coming to the SHC-HWC with following symptoms, urgent referral may be required:

1. Oxygen saturation less than 95%
2. Patient in severe shortness of breath in such a way that they are not able to complete a sentence.
3. Lethargic child
4. Blood in the sputum

Fig 6: Recovery Position

Steps to be taken while referring the acute simple illness patient from SHC- HWC to higher centers

1. Check the person's level of consciousness using the AVPU method
2. Once the patient's level of consciousness has been assessed, evaluate their airway. For an unresponsive patient, make sure that they are in a recovery position. If patient is consious 30 degree recline position is suggested.
3. Please follow ABC protocol, ensure airway is patent (explained in Emergency module for CHO).
4. Start oxygen supply at the rate of 5-6 liter/min. Evaluate oxygen saturation after 3 min
5. IV line to be maintained
6. Arrange for an ambulance for the patient for transfer
7. Refer the patient using ISBAR tool (Details in Emergency Module – Chapter on General Principles)

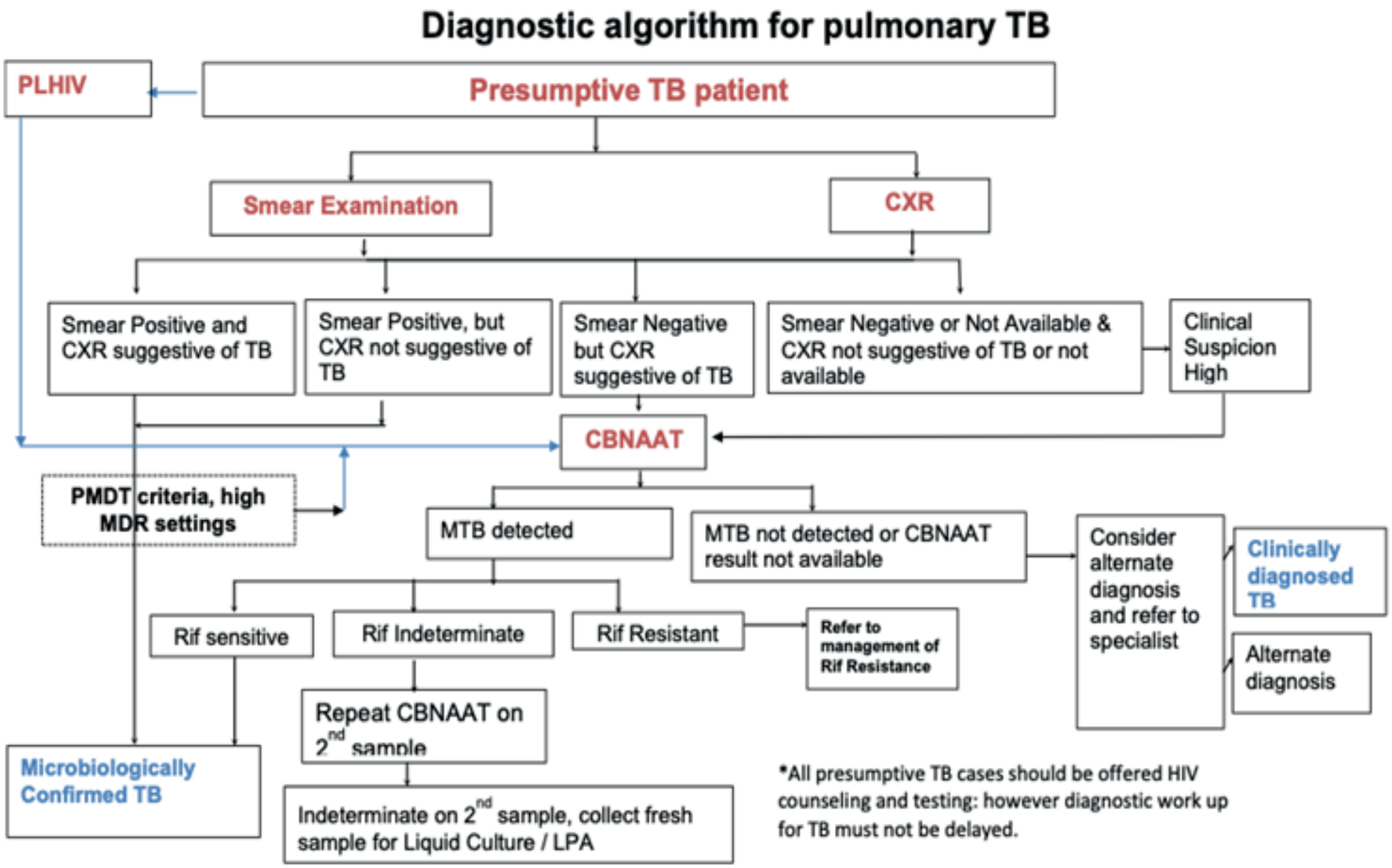


Fig 7: Algorithm for Tuberculosis

3.3 ANEMIA

Anemia is a condition when there is a decrease in the number of red blood cells (RBCs) compared to the normal range or when the haemoglobin (Hb) concentration within the red blood cells is lower than normal for age and sex.

Anemia is the most common hematological disease and is one of the most common conditions seen in clinical practice. Anemia, like fever, is not a diagnosis but a presentation of an underlying disease. Multiple diseases can present as anemia due to various mechanisms. Iron deficiency anemia is the most common cause of anemia, while anemia of chronic disease is the most common anemia in hospitalized patients.

Causes of anemia

The different causes of anemia are described briefly here.

1. Anemia due to **decreased production of RBCs/decreased intake of iron**:
    a. Nutritional deficiency of iron and/or folic acid
    b. Acute infections of bone marrow
    c. Spread of cancer anywhere in the body into the bone marrow
    d. Kidney diseases as chronic kidney disease, renal dysfunction in diabetes, etc.
2. Anemia from **loss of blood** or **early destruction of RBCs**:
    a. Acute blood loss during injury, accidents, surgery, normal labor, hemorrhoids, bleeding from tumors in various cancers, hemoptysis, or hematemesis.
    b. Acute blood loss is not visible from outside such as intracranial and intra-abdominal hemorrhage.
    c. Acute or chronic destruction of RBCs from infections like acute malaria, kala-azar, sickle cell disease, thalassemia, etc.
    d. Chronic blood loss from intestinal worm infestations, recurrent anal fissures, recurrent gastric ulcers, regular heavy menstrual bleeding.
3. Anemia due to some **chronic diseases:**
    a. HIV-AIDS, Cancers, Rheumatoid Arthritis, Thyroid dysfunction, etc

In the community and in majority of the cases where there is no obvious bleeding from natural orifices the most common cause of anemia is nutritional i.e deficiency of Iron/ Vitamin B12/ Folic acid. In females presenting with anemia, menstrual irregularity may be another cause. Those with heavy bleeding in the menstrual period associated to poor nutritional support may present with anemia.

Table 8: Classification of anemia

Age group	Normal Range of Hb (g/dl)	Staging of anemia		
		Mild anemia	Moderate anemia	Severe anemia
Children age 6 months to 5 years	>11.0	10.0-10.9	7.0-9.9	< 7.0
Children with age 5 years to 11 years	>11.5	11.0-11.4	8.0-10.9	< 8.0
Children with age 12 to 14 years	>12.0	11.0-11.9	8.0-10.9	< 8.0
All non-pregnant women above 15 years of age	>12.0	11.0-11.9	8.0-10.9	< 8.0
Pregnant women	>11.0	10.0-10.9	7.0-9.9	< 7.0
All adult males above 15 years of age	> 13.0	11.0-12.9	8.0-10.9	< 8.0

Clinical features of anemia

Due to decreased hemoglobin levels, there is low availability of oxygen in the body resulting in hypoxia, which affects the functioning of all organ systems of the body. Roughly, symptoms of anemia can be grouped together as follows:

Mild Anemia: Easy fatiguability, dizziness, palpitations, breathlessness on exertion, tachycardia, etc. are present along with symptoms of the underlying disease or symptoms regarding loss of blood from stools, menstruation, vomiting.

Moderate Anemia: All the above-mentioned symptoms of mild anemia become more obvious, and in addition to these, some other non-specific symptoms may also appear: drowsiness, headache, multiple joint pains, etc.

Severe Anemia: In severe *chronic* anemia, the body gets a long time to adapt itself to lower Hb levels, and therefore symptoms of anemia may not be similar in severity even with very low Hb levels. On the other hand, in severe *acute* anemia, a patient would have lost a large amount of blood in a short time and present with severe symptoms as drowsiness or brief loss of consciousness, hypotension, and shock, severe dyspnea, tachycardia swelling all over face, signs of heart failure, etc. Symptoms and signs of visible blood loss would be present.

Very severe Anemia: Hemoglobin levels less than 6.5 g/dl are generally considered very low and life-threatening. A sudden lowering of Hb levels increases the workload of the heart and may develop in heart failure and death.

Anaemia because of nutritional cause can be insidious. The onset of symptoms/signs in such patients is usually late.The patients presenting with symptoms /signs of anaemia needs immediate evaluation to rule out other causes.

Evaluation and Management of Anemia at SHC-HWC

1) **General examination**: Confirm anemia and stage of anemia with a general examination and hemoglobin levels measured using a hemoglobinometer available at SHC-HWC. General examination of the patient would reveal paleness over palms and soles, paleness over lower palpebral conjunctiva of eyes, and the tongue.

Table 9: Cause of anemia and advise for specific treatment

No.	Clinical Features	Differential Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
1	Is there any visible loss of blood of any small or large amount from anywhere? What is the amount of blood that is lost daily or on each episode of bleeding?	Liver disease and portal hypertension, gastric or oesophageal ulcers, or cancer	If bleeding is ongoing or frequent or in larger amounts, then – -Assess hemodynamic status and A-B-C -Give necessary resuscitation	Arrange a teleconsultation with PHC-MO	Once stabilised refer to the PHC for further evaluation and management
			-If bleeding is occasional, smaller in amount, and the patient is stable Check for Hb levels -Iron supplement should be given if Hb levels are low - Antacids/ Give tab. Ranitidine 150mg twice daily for 10-14 days for gastric ulcer		Refer to the nearest PHC for further evaluation and management
	Blood in vomitus	Intestinal worm infestations, Hemorrhoids, anal fissure, anorectal cancer (more details on management in chapter 5)	Give OPD based treatment for minor illnesses as: Tab. Albendazole 400 mg for intestinal worms	Arrange a teleconsultation with PHC-MO for hemorrhoids, anal fissure	Refer to the nearest PHC for further evaluation
	Blood in stools	Bronchitis, Pulmonary hemorrhage, Lung cancer	-Sputum collection for AFB - Stool collection for examination -Check Hb levels	Arrange a teleconsultation with PHC-MO for further evaluation and treatment	Refer to the nearest PHC for further evaluation

No.	Clinical Features	Differential Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
	Blood in sputum		-Urine examination -History of any injury or intake of drugs Check Hb levels	Arrange a teleconsultation with PHC-MO	Refer to the nearest PHC for further evaluation
	Blood in urine	UTI, Urethral injury, injury to the bladder, bladder cancer, Drug-induced hematuria	-Check for Hb levels -Advise on intake of citrus fruits Tab. Vitamin C for Scurvy	Arrange a teleconsultation with PHC-MO	Refer to the nearest PHC for further evaluation
	Bleeding gums	Gum infections, bleeding disorder, scurvy	-Stabilise the patient Examine and treat simple wounds Give Iron supplements to treat anemia - Discuss with the patient about condition, give symptomatic treatment		Refer to the nearest PHC for further evaluation
	Bleeding from nose or ears	History of trauma, bleeding disorder Accidental injuries, simple benign or cancerous tumors	History of any injury, history of weight loss Stabilise the patient Check for Hb levels Iron supplement should be given if Hb levels are low		Refer to the nearest PHC for further evaluation
	Bleeding from any wound or swelling anywhere				
	Vaginal bleeding	Heavy menstrual bleeding from hormonal imbalance, post-coital bleeding, cervix cancer			

No.	Clinical Features	Differential Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
2	Does the patient have any lump in the abdomen or anywhere? Is there an associated history of any local symptoms or weight loss, anorexia?	Benign or cancerous tumors associated with anemia	-Examine the lump, - Keep a record of this referral at your centre, -Track patient through ASHA and during your village visits for VHND -Follow up the patient at the SHC-HWC or home visit, -Discuss the diagnosis and treatment plan with the patient as given from the referral centre and continue to monitor as advised. - Get blood tests done for malaria at your centre	Arrange a teleconsultation with PHC-MO	Refer to the nearest PHC for further evaluation
		Splenomegaly with anemia (with or without hepatomegaly)	- if Malaria negative,	Arrange a teleconsultation with PHC MO and treat malaria at SHC-HWC with anti-malarial agents.	Refer to the nearest PHC for further evaluation
		HIV	-Blood test for HIV at SHC-HWC,	Arrange a teleconsultation with PHC MO if test negative	Refer to ICTC if the test is positive,

No.	Clinical Features	Differential Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
3	Does the patient also have any specific complaint anywhere in the body? a) Mild or severe acute febrile illness with/ without rash b) Recurrent episodes of UTI, swelling over face and elsewhere, decreased urine output, with/without history diabetes in adults/children c) History of multiple blood transfusions in past, history of the death of a sibling in early childhood, and presence of jaundice and/or splenomegaly on physical examination, d) If there are no local	Malaria, kala-azar, or viral hemorrhagic fevers like Dengue, JE, chikungunya, etc. Renal diseases or renal failure with anemia, with/ without diabetes Hemolytic anemias as sickle cell anemia or thalassemia or G6PD or others Nutritional anemia or any of the above causes which are to be evaluated	- Symptomatic treatment with paracetamol -Blood tests for confirmation - Confirm, counsel, and treat for diabetes -Treat anemia with iron supplements - Follow up and continue treatment for renal disorders or renal failure as advised by the referral centre or PHC MO - Screening of siblings - Follow up blood test reports and treatment plans from the referral centre/PHC -Check for Hb levels Mild anemia- - Examine for signs of vitamin deficiency - Start oral iron and folic acid supplements for 4 weeks and give tab. Albendazole 400mg single dose - Iron supplements 3mg/kg/day for children - Repeat evaluation after 4 weeks	Arrange a teleconsultation with PHC MO and treat accordingly Arrange a teleconsultation with the PHC MO	

No.	Clinical Features	Differential Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
	or specific symptoms or no signs of obvious bleeding or no history of anemia in past and there are no signs on examination except for paleness.		Moderate to severe Anemia- - Blood transfusion is needed for severe anemia	Arrange a teleconsultation with the PHC MO	Refer to the nearest PHC
4	Is your patient a pregnant woman and has anemia?	Anemia of pregnancy Or Iron deficiency anemia Or Anemia secondary to other illnesses along with anemia of pregnancy	Mild anemia- - Give tab. Albendazole 400mg single dose in the second trimester if not given before - Start oral iron supplements as 2 IFA tablets per day for 100 days during pregnancy and 100 days during lactation Follow up monthly Moderate to severe anemia-	Arrange a teleconsultation with the PHC MO	Refer to the nearest PHC

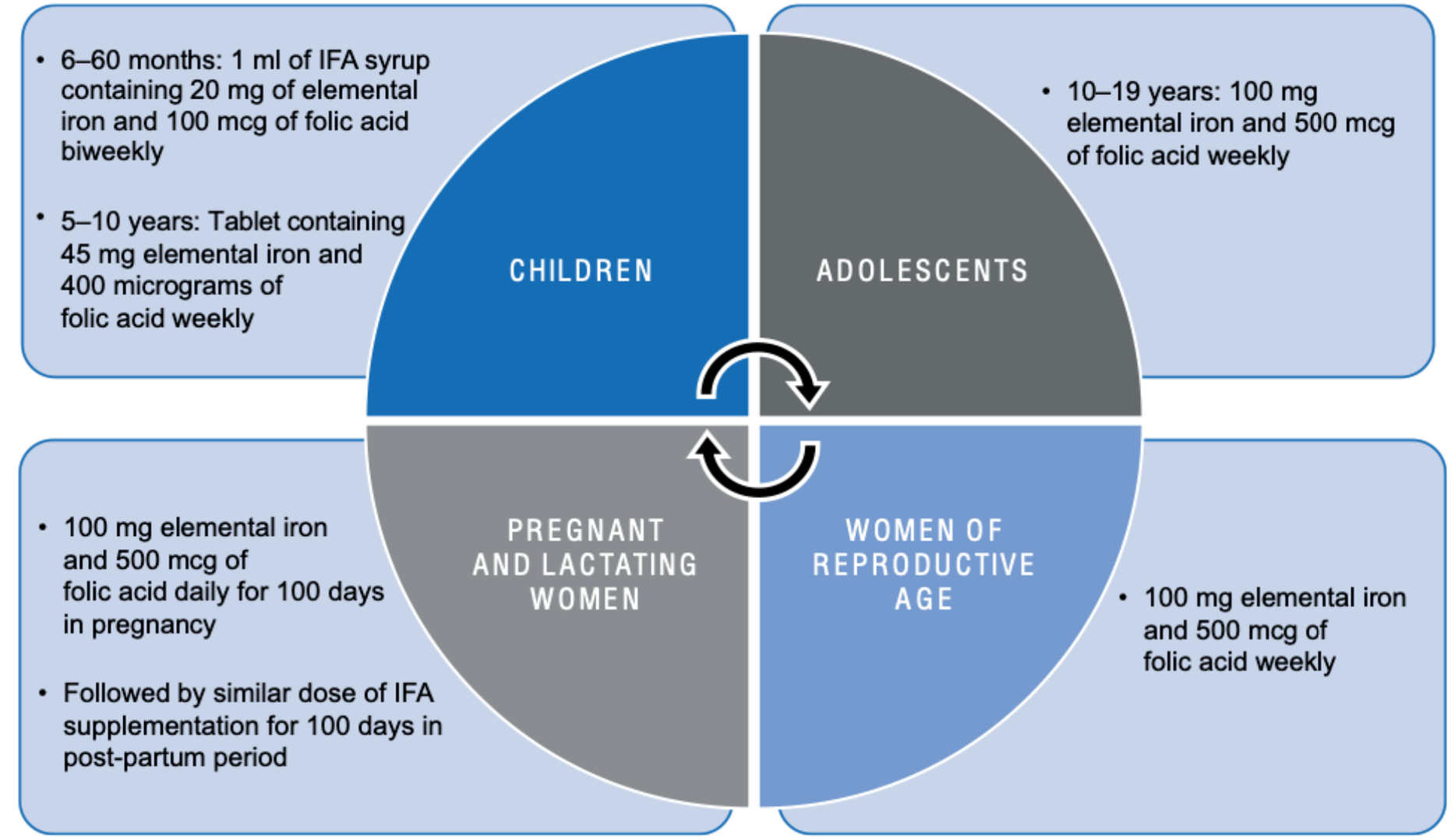


Fig 8:Iron and folic acid supplementation

3.4 NAUSEA & VOMITING

Definitions:

Nausea: It is sensation of an urge to vomit. It can be acute or chronic.

Vomiting :It is forceful voluntary or involuntary emptying (throwing up) of the contents of the stomach through mouth.

Causes:

There are many causes for nausea and vomiting such as:

- Gastro-intestinal causes (e.g. peptic ulcer, infection, gastro-oesophageal reflux)
- Central causes (e.g. headache, motion sickness, inner ear problems, raised intracranial pressure, offensive smells)
- Pregnancy (hormone changes, pressure on stomach by the uterus)
- Drugs and toxins- many of the commonly used antibiotics and other drugs cause nausea and vomiting.
- Other illnesses (e.g. hepatitis, myocardial infarction, meningitis, intestinal obstruction)

Repeated vomiting causes loss of salt and water. Persistent over days, it results in starvation & electrolyte imbalance.

Evaluation and management at SHC-HWC

- History of any existing illness, medications, and habits like smoking, etc. should be taken.
- After history taking, confirm your differential diagnosis with physical findings.

Table 10:Differential Diagnosis for cases presenting with of vomiting with their relevant history is given in the following table

No	History	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
Acute episodes of vomiting (duration less than 1 day and within hours)					
1	Vomiting within few hours after consumption of food or drinks or feeling of fullness	**Dyspepsia/ Indigestion**	- Reassure and good hydration for 1-2 episodes with mild symptoms - Give tab. Ranitidine 150mg twice daily for 10-14 days		
	Vomiting within few hours after consumption of spoiled/ contaminated food or drinks	**Food poisoning**	--Intake of lot of fluids (ORS/ Chaanch/ rice water etc.) -Paracetamol if fever is present -Initiate fluid resuscitation if moderate dehydration is seen - Stabilisation of the patient		Refer to to the nearest PHC,, if the patient has fever, moderate dehydration after initiation of oral/IV fluids for resuscitation. -Refer directly to the nearest PHC, if the patient is in shock, after giving resuscitation with IV fluids
	Excessive or raw alcohol consumption	**Alcohol Poisoning**			Refer to the nearest PHC for further evaluation and treatment after stabilisation
2	Multiple episodes of vomiting with respiratory distress developed in the past 1-2 hours, With/without a history of ingestion of the poison, Associated with the typical smell of insecticides or any poison or alcohol	**Insecticide/ other poisoning**	- Assess A-B-C, give necessary resuscitation		Refer immediately to the nearest PHC

No	History	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
3	History of fall/accident No other significant history or associated symptoms	**Vomiting associated with head injuries**	-Assess general condition, - Assess A B C and stabilise the patient -Give rest to the injured part		Refer to the nearest PHC if there is a history of unconsciousness after fall, bleeding from nose/ ears/ mouth/ throat/ scalp, or signs of raised intracranial pressure or large wound over head or weakness over any body part.
4	Vomiting with severe abdominal pain, distension of abdomen, developed within hours, Associated with constipation/ obstipation/ green colored vomiting and abdominal tenderness	**Acute appendicitis Or Intestinal obstruction (with/without shock)**	- Assess general condition, -Assess A-B-C, -Check for signs of dehydration or shock - Secure IV line, give 20-30ml/ kg IV fluids (RL/NS) in first 1 hour		Refer to the nearest PHC with maintenance fluids for further evaluation and treatment
Acute episodes of vomiting (duration 1 day to 1 week approx.)					
5	Vomiting with diarrhea, fever, abdominal cramps for more than 1-3 days - similar complaint associated with blood in stools (fresh red/ dark red) - similar complaints for more than 1 week with a high grade of increasing fever, skin rash - associated with a large volume of rice watery stools, with/ without blood in stools	**Gastroenteritis** **Dysentery (amoebic/ bacterial)** **Typhoid fever with gastro-enteritis** **Cholera**	- Assess general condition, vitals, and signs of dehydration - Measure temperature, check for malaria, dengue, and do RDT - Advise on maintenance of good hydration, - Advise use of boiled water with clean utensils, and keep good hand hygiene - Symptomatic treatment for fever with paracetamol - Give antacid gel 10-15 ml or tab. Ranitidine 150mg twice daily for 5-7 days		- Refer to PHC MO for the treatment of malaria if RDT is positive Refer if severe signs of dehydration and shock (See section on diarrhea) Refer to the PHC MO for diagnosis and management accordingly

No	History	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
6	Vomiting with epigastric pain and abdominal discomfort, with occasional blood in vomitus or black colored stools (Malena) - similar complaints with history of alcohol or frequent use of NSAID use, with/without abdominal distension (with fluid-Ascites)	**Gastritis or peptic ulcer disease** **Portal hypertension/ liver cirrhosis**	- Give antacid gel 10-15 ml or Tab. Ranitidine 150mg twice daily for 5-7 days - Avoid hot and spicy food, alcohol, etc. - In case of dehydration due to vomiting, give sips of cold water or ORS fluid.	Arrange a teleconsultation with the PHC MO	Refer to the nearest PHC for further evaluation and management if blood in vomitus/ malena in large amount or even small amount of blood associated with ascites
7	Vomiting is associated with severe abdominal pain and fever for 1-3 days or more -associated with jaundice and right upper quadrant abdominal pain with/without altered consciousness and shock -associated with dysuria and pain radiating to back/ loins/ flanks on either side with tenderness	**Severe Gastritis or Pancreatitis** **Cholangitis or Cholecystitis or Hepatitis** **Severe upper urinary tract infection**	- Assess general condition, A-B-C, vitals and give necessary resuscitation, - Secure IV line, give 20-30ml/ kg IV fluids (RL/NS) within 1 hour -Check for blood sugar levels and treat for hypoglycemia with inj. Dextrose 25% Assess general condition, A-B-C, vitals and give necessary resuscitation, - Assess general condition, A-B-C, vitals -Advise on intake of plenty of fluid	Arrange a teleconsultation with the PHC MO a	Refer to the nearest PHC for further evaluation Refer to next nearest health facility for hospitalization. Refer to the nearest PHC in case of severe UTI.

No	History	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
8	Projectile vomiting with headache and sometimes fits/altered sensorium, associated with acute febrile illness in adults or children with/without signs of raised intracranial pressure	**Meningitis (Bacterial/Viral/ Tubercular)**	- Assess general condition, Assess A-B-C, consciousness, and hydration and give resuscitation accordingly -Check RBS and treat hypoglycemia with inj. Dextrose 25%		Refer to the nearest PHC urgently for further management
Long duration of vomiting (more than 1 week or recurrent episodes of short duration)					
9	Vomiting in the first trimester of pregnancy, worse in the morning -Vomiting with frequent episodes not resolving with treatment	**Nausea and vomiting of pregnancy (NVP)** **Hyperemesis Gravidarum (HG)**	- Ask history in detail to rule out any infection as gastroenteritis, hepatitis, etc. -Ask for pain in the abdomen, dysuria, or if she is taking any medicines. - Do careful abdomen examination - Check RBS to rule out diabetes - If no other causes are found, then counsel and reassure the woman that it was a common mild condition and would resolve easily - Advise rest. Most women with mild symptoms would recover without medicines. -Medicines for NVP or HG: Tab. Metoclopramide 5mg 2-3 times a day for 2-3 days - Give antacids, if gastritis is likely.	Arrange a teleconsultation with the PHC MO	

No	History	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
10	History of vomiting during travel Associated dizziness, vertigo, nystagmus Pain, discomfort, or blocked ear	**Inner Ear Problem** **(Motion Sickness/ Labyrinthitis)**	- Home remedies like a pinch of ginger/slice of lemon may help. - Advice travel after a light meal and not on an empty stomach or heavy meal. - Tab. Promethazine 25mg is given before and during travel.		
11	Vomiting with unilateral headache History of similar previous episodes lasting few minutes to hours Preceding aura Moderate to severe headache, photophobia, nausea (Headache is a more common and bothersome symptom here than vomiting)	**Migraine**	- Advise rest, avoid noise, bright light, and other known risk factors, maintain good hydration - Tab. Paracetamol 500mg stat and 6 hourly Or tab. Ibuprofen 400mg stat and 8 hourly till headache is resolved.		- Refer to the nearest PHC if symptoms are not resolved in a day or if gets worse
12	Vomiting immediately after taking food with/without painful or difficult swallowing, associated with burning sensation in the chest (heartburn) - associated with loss of appetite and weight, large lymph nodes in neck or lump in the abdomen in men/women with age above 50 years - associated with whitish plaques in mouth/ throat	**Oesophagitis** **Oesophageal or stomach cancer** **Candidial oesophagitis +/- pharyngitis**	- Check all such patients for blood sugar for diabetes, and HIV testing at your HWC. - Give sips of cold water or ORS fluid, maintain good hydration - Advice to take more fluids as milk/fruit juices/soups/dalpani - Check for blood sugar levels -Advise on care of mouth		Refer all of these patients to the nearest PHC for further evaluation and treatment

3.5 DIARRHEA

Definition:

Diarrhea is defined as the passage of loose, liquid, or watery stools usually more than 3 times a day. The change in consistency (loose, watery) is considered more important than frequency.

Severe diarrhea with the passage of mucus and blood is called as 'Dysentery' that is usually caused by infection.

In the vast majority of cases, these acute episodes subside within 7 days. Diarrhea which persists for >2 weeks in 5-15% cases, is called as 'Persistent diarrhea'.

Based on clinical presentation and duration there are three clinical types of diarrhea:

1) Acute watery diarrhea – lasts several hours or days, and includes cholera
2) Acute bloody diarrhea – also called dysentery; and
3) Persistent diarrhea – lasts 14 days or longer

Causes of diarrhea

Diarrhea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral, and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person to person through the faeco-oral route as a result of poor hygiene. Some chronic diseases also cause diarrhea like inflammatory bowel disease, HIV/AIDS, and cancers.

In India, acute diarrheal diseases are most commonly seen in the under-5-year age group. The two most important consequences of diarrhea in children are malnutrition and dehydration. Malnutrition and diarrhea form a vicious cycle since malnutrition increases the risk and severity of diarrhea.

Many infectious agents have been identified to cause diarrhea in children and adults as follows:

- Bacteria: E. coli, shigella, salmonella typhi, vibrio cholera, etc.
- Viruses: Rotavirus, astrovirus, adenovirus, etc. Rotavirus alone accounts for almost 15-25% of cases of diarrhea.
- Parasites: E. Histolytica (causes amoebiasis), giardia, etc.

Evaluation of diarrhea at SHC-HWC

The goals of assessment of patients with diarrhea are:

(i) Determine the type of diarrhea, i.e., acute watery diarrhea, dysentery, or persistent diarrhea

(ii) Look for dehydration and other complications

(iii) Assess for malnutrition

(iv) Rule out non-diarrhoeal illness especially systemic infection; and

(v) In children, assess feeding both before and during illness

Table 11:The following steps will help you to assess a patient with diarrhea:

Step 1: Perform Quick Check (To ensure that there are no serious or life-threatening conditions)
- Airway - Breathing - Circulation - Consciousness
Step 2: History Taking and examination of the patient
Specific points of the history include the following. **1. Onset of diarrhea** **2. Frequency of stool passage** **3. Amount of the stool** **4. Consistency of the stool** **5. Blood in the stool** - Suggests invasive pathogens or severe inflammation (e.g., ulcerative colitis). **6. Mucus or pus in the stool** **7. Recent travel to** regions, where there is a recent outbreak of diarrheal disease is reported. This may point to a specific pathogen. **8. Associated symptoms –** Fever, abdominal pain, nausea, vomiting, bloating, flatus, fever, tenesmus, anal itch.

Step 3: Examine the patient
Physical examination is used to assess the severity of diarrhea but rarely helps to determine its cause. In many cases, a physical examination may be entirely normal. But you should check for: **1.** The general appearance of the patient (i.e., whether ill or well and nutritional status) **2.** Hydration status- Skin turgor, whether or not mucous membranes appear dry, capillary refill time (usually <3 seconds, but may be increased in dehydration) **3.** Pulse rate **4.** Blood pressure **5.** Body temperature **6.** Systemic examination **7.** Careful abdominal examination may reveal clues to some diagnoses. Patients may have hyperactive, normal, or absent bowel sounds, localized or generalized abdominal tenderness, rebound tenderness, abdominal distension, enlarged liver (in Salmonella, Amoebic liver abscess), or an abdominal lump.
Step 4: Lab investigations
Check blood sugar levels for the presence of hypoglycemia Stool microscopic examination helps to identify the exact infective organism and helps to decide if any specific antibiotic is needed.

The clinical examination for evaluating dehydration can be life saving for the patient irrespective of the causative organism. The following table is giving a quick guide to evaluate the dehydtaion and early initiation of treatment in patients with diarrhea.

Table 12: Assessment of dehydration:

No.	Signs	No dehydration	Mild dehydration	Severe dehydration
A	**Look**			
1	Condition	Well alert	Restless, irritable	Lethargic, unconscious, floppy
2	Eyes	Normal	Sunken	Very sunken and dry
3	Tears	Present	Absent	Absent
4	Mouth and tongue	Moist	Dry	Very dry
5	Thirst	Drink normally, not thirsty	Thirsty, drinks eagerly	Drinks poorly or is not able to drink
B	**Feel and measure**			
6	Skin pinch	Goes back quickly	Goes back slowly	Goes back very slowly
7	Skin temperature	Normal	Normal	Decreased, cold limbs and peripheries
8	Pulse rate	Normal rate and volume	Normal or increased rate, normal volume	Increased rate, feeble pulse with decreased volume
9	Blood pressure	Within normal range	Borderline hypotension	Hypotension or shock

No.	Signs	No dehydration	Mild dehydration	Severe dehydration
C	**Decide**	The patient has no signs of dehydration	If the patient has two or more signs, there is some dehydration	If the patient has two or more signs, there is severe dehydration
D	**Treat**	Use treatment **Plan A**	Weigh the patient, if possible, and use treatment **Plan B**	Weigh the patient and use treatment **Plan C** urgently

Management of Diarrhea at SHC-HWC

Management of acute diarrhea has four major components:

- Rehydration and maintaining hydration;
- Ensuring adequate feeding;
- Oral supplementation of zinc; and
- Early recognition of danger signs and treatment of complications.

Rehydration and maintaining hydration:

The most important part of the management of acute diarrhea is rehydration by using oral rehydration solutions.

What you can do independently:

Plan A: Treatment of Diarrhea with no dehydration

Such children may be treated at home after an explanation of feeding and the danger signs to the mother/ caregiver. The mother is given WHO ORS for use at home. Danger signs requiring medical attention are continuing diarrhea beyond 3 days, increased volume/ frequency of stools, repeated vomiting, increased thirst, refusal to feed, fever, or blood in stools.

ORS, milk, or other home remedies like *salted rice water, dalpani, soups, nimbupaani, etc* can be used for rehydration. The patient should be given these fluids after every episode of loose stools as given below:

Age	Amount of ORS or other culturally appropriate ORT fluids to give after each loose stool	The minimum amount of ORS to provide for use at home per day for diarrhea patients with no dehydration
<2 years	50-100 ml	500 ml/day
2-10 years	100-200 ml	1000 ml/day
>10 years	>200ml and as required	2000 ml/day

Other measures:

Ensuring adequate feeding:

Early feeding during diarrhea not only decreases the stool volume by facilitating sodium and water absorption along with the nutrients but also facilitates early gut epithelial recovery and prevents malnutrition.

In exclusively breastfed infants, breastfeeding should continue as it helps in better weight gain and decreases the risk of persistent diarrhea.

Optimally energy-dense foods with the least bulk, recommended for routine feeding in the household, should be offered in small quantities but frequently (every 2-3 hr).Foods with high fiber content, e.g., coarse fruits and vegetables should be avoided.

Oral supplementation of zinc:

Zinc supplementation is now part of the standard care along with ORS in children with acute diarrhea. It helps decrease the severity and duration of diarrhea and also the risk of persistent diarrhea. Zinc is recommended to be supplemented at a dose of 20 mg of elemental zinc per day for children >6 months for a period of 14 days.

When to refer:

Plan B: Treatment of diarrhea with some dehydration

All cases with obvious signs of dehydration need to be treated in a health center or hospital. However, oral fluid therapy must be commenced promptly and continued during transport. The fluid requirement is calculated under the following three headings:

1. **The daily fluid requirements** in children and adults are calculated as follows:

   Up to 10 kg = 100 ml/kg

   10-20 kg = 50 ml/kg

   >20 kg = 20 ml/kg

   As an example, the daily fluid requirement in a child weighing 15 kg will be 1250 ml (first 10 kg, 10 x 100 = 1000 ml; another 5 kg, 5 x 50 = 250 ml, total 1000 + 250 = 1250 ml).

2. **Deficit replacement or rehydration therapy** is calculated as 75 ml/kg of ORS, to be given over 4 hr. If there is no improvement in 04 hours after 1st bolus of replacement, then repeat this amount of oral fluids again. If ORS cannot be taken orally then a nasogastric tube can be used.

3. **Maintenance fluid therapy to replace losses**. This phase should begin when signs of dehydration disappear; usually within 4 hour. ORS should be administered in volumes equal to diarrheal losses, usually to a maximum of 10 ml/kg per stool. Breastfeeding and semisolid food are continued after the replacement of the deficit. Plain water can be offered in between.

Plan C: Treatment of Diarrhea with severe dehydration

Intravenous fluids should be started immediately using Ringer lactate. Total 30ml/kg of IV fluids should be given over 1 hour for infants (age <12 months) and over 30 minutes for all children above the age of 12 months and in adults. Counseling of family and arrangements for referral be made during this time while the patient is receiving a bolus of IV fluids.

Reassess this patient after the fluid bolus is completed; if the patient has improved and has some dehydration then continue management as per Plan B, and if the patient has improved significantly and has no dehydration, then continue management as per plan A. Refer those patients who either do not improve or get worse or has other danger signs.

Early recognition of danger signs and treatment of complications:

An occasional vomit in a patient with acute diarrhea does not need antiemetics. If vomiting is severe or recurrent and interferes with ORS intake, then a single dose of sublingual/IM ondansetron (0.1-0.2 mg/kg/dose) should be given after consultation with the PHC-MO. Most episodes of diarrhea are self-limiting and do not require any drug therapy except in few situations. Antibiotics are not recommended for routine treatment of acute diarrhea in children. In acute diarrhea, the antimicrobial is indicated in bacillary dysentery, cholera, amebiasis, and giardiasis, and confirmation of these infections can be done using stool microscopy test, which is available at CHC and DH levels.

3.6 CONSTIPATION

Constipation is a common complaint in clinical practice and usually refers to persistent, difficult, infrequent, or seemingly incomplete defecation. Most persons have at least three bowel movements per week; however, low stool frequency alone is not the sole criterion for the diagnosis of constipation. Many constipated patients have a normal frequency of defecation but complain of excessive straining, hard stools, lower abdominal fullness, or a sense of incomplete evacuation. The individual patient's symptoms must be analyzed in detail to ascertain what is meant by "constipation" or "difficulty" with defecation.

Constipation commonly is a mild symptom in itself but is often seen along with some serious GI diseases. Thus, all of these dangerous symptoms should be evaluated in detail before giving any empirical treatment for constipation.

Table 13: Action points for management at the level of SHC-HWC by the CHO: Constipation

Evaluation and treatment for constipation at SHC-HWC level

No.	Clinical features	Probable Diagnosis	Action		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
	Recent onset illness (developed within few hours)				
1	History of severe acute pain in the abdomen, either in one part of the abdomen or over all parts, with episodes of vomiting, and not having passed stools or gas since the onset of abdominal pain, with or without distension of abdomen, -may have a history of blood in stools On examination, the patient would appear sick, moderately or severely dehydrated and the abdomen would be hard and very tender to touch or palpate, many such patients would arrive at SHC-HWC in shock.	**Intestinal obstruction, or** **Intestinal perforation and obstruction**	- Assess general condition, A-B-C, vitals - Give necessary resuscitation with IV fluids - Treat pain with Inj. diclofenac 3ml IM single dose - Keep patient nil by mouth		-Refer to the next nearest health facility urgently after resuscitation for further management
2	History of acute pain near anal region with a small or large amount of fresh red-colored blood lost through the anus, along with the painful passage of stools, Symptoms are usually present for few days before the patient comes over to SHC-HWC, a history of similar episodes in past is commonly present. A patient does not have abdominal pain.	**Hemorrhoids** -Episodes of a large amount of blood loss along with the passage of stools or otherwise it is usually painless **Anal fissure** -Small amount of blood over hard stools associated with pain during passage of stools	- Advise to drink plenty of water, eat one seasonal fruit a day - Syp. Liquid paraffin 10-15ml given once at bedtime or 2-3 times a day, as required help to keep stools soft and thus reduces pain during defecation - Sitz bath: the patient can be advised for sitz bath by putting the perineum area in the luke warm water. -Increase fiber intake (More details in chapter 5)		Refer to the nearest PHC for further evaluation and treatment

No.	Clinical features	Probable Diagnosis	Action		
	Chronic conditions (developed over a few days or weeks)				
3	Hard stools, straining during defecation, less than 3 stools a week, prolonged defecation time, and appear frequently but with no other symptoms -without pain in the abdomen -without pain over the anus -without blood with stools -without signs of illness of other organ systems or history of drugs used for some chronic illness -History of something coming out of the vagina, with difficulty in defecation and with or without difficulty in urination- among older women -History of taking drugs that may cause constipation such as morphine, tramadol, amitriptyline, imipramine, iron and calcium supplements, frusemide, Phenytoin, carbamazepine, etc., and without any other danger symptoms or signs.	**Functional constipation** **Vaginal prolapse with rectocele** **Drug-induced constipation**	- Advise to drink plenty of water about 2-3 liters per day, eat one seasonal fruit a day - Syp. Liquid paraffin 10-15ml given once at bedtime or 2-3 times a day, as required help to keep stools soft and thus reduces pain during defecation (More details in chapter 5) - Physical activity: atleast 150 minutes of moderate physical activity helps to make the bowel movements normal. - Continue all above measures - Examine for any ulcer or injury over prolapsed part of the vagina -Advise of personal hygiene -Advise patient to continue simple measures as mentioned above	Arrange a teleconsultation with the PHC MO for replacement of these drugs	Refer to the nearest PHC for further treatment
4	Signs of depression along with a history of constipation	**Constipation associated with psychiatric disorders, or eating disorders**	- Advise simple measures at home for constipation	Arrange a teleconsultation with the PHC MO	

No.	Clinical features	Probable Diagnosis	Action		
5	Constipation along with - Slowness of gait and tremors over both arms and head, generalized weakness among adults	**Neurological diseases in the elderly like Parkinson's disease**	- Advise simple measures at home for constipation	Arrange a teleconsultation with the PHC MO	
6	History of swelling over feet, abdomen, jaundice, black colored stools, blood in vomiting or stools, history of chronic alcohol abuse	**Liver disease with portal hypertension and hemorrhoids**	- Advise simple measures at home for constipation		Refer to the nearest PHC
7	History of swelling over eyelids, slow speech, intolerance to cold, hair loss, weight gain, etc. associated with constipation	**Hypothyroidism**	- Advise simple measures at home for constipation		Refer to the nearest PHC

3.7 URINARY TRACT INFECTIONS (UTI)

Urinary tract infections are one of the common reasons for OPD consultations at the health center . It is more commonly by women than men. Lower urinary tract infections are more common and usually mild in nature as compared to upper urinary tract infections. Uro-pathogenic E. coli bacteria is the most common causative agent of the majority of urinary tract infections and others include *Staphylococcus, Klebsiella,* and rarely viral or fungal infections.

Risk factors

Some of the common risk factors are:

- Women: As the female urethra is shorter in length compared to the male urethra, women are at more risk of getting urinary tract infections from easy transit of bacteria upwards through the shorter tract.
- Pregnancy: Hormonal and mechanical changes in the urinary tract can promote urinary stasis and therefore increases the risk of the development of UTI in pregnancy.
- Urinary tract obstructions or blockages, such as enlarged prostate, kidney stones, urethral strictures, and cancers related to the urinary tract, etc. increases the risk for UTI.
- Prolonged use of urinary catheters causes colonization of catheter and urinary tract by bacteria and infections.
- Diabetes, especially if poorly controlled and other immunocompromised states like HIV-AIDS, cancer, etc. also increase the risk of UTI.
- Abnormally developed urinary tract from birth

Evaluation and management of UTI at SHC-HWC level

Table 14:The presenting symptoms of UTI depend on the infected part, as shown in the table

No.	Clinical Features	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
1.	History of burning micturition, painful micturition, with mild/high-grade fever, with/without urethral discharge, with/without blood in the urine -and increased frequency of urination without any vaginal discharge or vaginal irritation/itching (for women) -burning micturition, straining during micturition, with or without pain in the lower abdomen, with mild or high-grade fever, with or without vomiting -Examination: General condition of the patient is usually fair and vitals are stable. The abdomen examination is normal. Some tenderness in the pelvic region or lower abdomen may be present.	**Lower UTI**	**-** Confirm the diagnosis by urine dipstick test (test positive for leucocyte esterase and nitrite) - Assess and rule out the presence of any associated complications (see complicated UTI). - Advise drinking plenty of water atleast 3-4 liters per day - Follow up with patient within next 4-5 days	Teleconsultation with MO at PHC and give antibiotics and other supportive treatment as indicated.	Refer all men with confirmed UTI and all pregnant women with confirmed UTI to the nearest PHC for further evaluation.

No.	Clinical Features	Probable Diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
2.	History of acute febrile illness with localized pain in the abdomen and few episodes of vomiting associated with or without burning micturition. -Continuous, localized, moderate to severe pain, deeper in the abdomen on either side and with pain in flanks or back on the same side of abdominal pain -History of above symptoms for 2-5 days duration followed by features of dehydration, severe sepsis, and shock -Examination: General examination shows a sick patient with signs of moderate to severe dehydration, hypotension or shock may be present. On abdominal exam, there is severe pain on palpation of the abdomen and/or back on side of infection	**Upper UTI**	-Assess the general condition and A-B-C, and give necessary resuscitation -Advise on intake of fluids - Treat dehydration with IV fluids - Treat pain with Tab. Paracetamol 500mg-650mg orally	Teleconsultation with PHC MO for further action with antibiotics	Refer to the nearest PHC for further management
3.	Symptoms of UTI, upper or lower associate with any of the following: Diabetes, congenital anomaly of the urinary tract, patients with HIV or cancer, history of urinary stones or urinary obstruction in past, history of recurrent episodes of UTI, etc.	**Complicated UTI Upper or Lower**	Same as for upper UTI	Teleconsultation with PHC MO for further action	

3.8 DYSPEPSIA

Dyspepsia is pain or uncomfortable feeling in the upper middle part of your stomach .The pain is on and off during most of the time. Patients feel full after a meal or full to finish a meal. This may or may not be associated with fullness of abdomen, loss of appetite and burning sensation in the upper part of the abdomen and lower part of chest.

Causes:

- Habits: Smoking and alcohol, irregular eating
- Drugs: NSAIDs, painkillers and aspirin
- Gastrointestinal causes: Gastroesophageal reflux disease, peptic ulcer disease and gastritis
- Psychological : Stress and depression
- Cancer

Evaluation and treatment for dyspepsia at SHC-HWC level

Table 15: Action points for management at the level of SHC-HWC by the CHO: Dyspepsia

Sl No	Clinical features	Probable diagnosis	Actions		
			What can you do independently	What can you do in consultation with PHC MO	When to refer
1	• Heartburn, regurgitation provoked by bending, straining or lying down • Excessive salivation • Wakes up at night as feeling of choking • Chest pain • Hoarseness of voice • Chronic cough	Gastroesophageal reflux disease (GERD)	• Lifestyle modification: reduce weight, avoid caffeine, spicy and fried food, avoid alcohol and stop smoking • Drink adequate amount of water atleast 3-4 liters per day • Elevate head of the bed if nocturnal symptoms seen • Avoid late meals • Avoid stress • Antacids/ tab. Ranitidine 150mg twice daily for 10-14 days		• Refer to the nearest PHC for further management if symptoms persist

Sl No	Clinical features	Probable diagnosis	Actions		
2	• Burning pain in the stomach • Feeling of fullness,bloating or belching • Intolerance to fatty foods • Heart burn • Nausea	Peptic ulcer disease	• Lifestyle modification: reduce weight, avoid caffeine,spicy and fried food, avoid alcohol and stop smoking • Avoid stress • Drink adequate amount of water atleast 3-4 liters per day • Avoid drugs like aspirin • Antacids/ tab. Ranitidine 150mg twice daily for 10-14 days		• Refer to the nearest PHC for further management if symptoms persists
3	• Pain in the upper abdomen • Nausea • Vomiting • Feeling of fullness after eating	Gastritis	• Lifestyle modification: reduce weight, avoid caffeine,spicy and fried food, avoid alcohol and stop smoking • Avoid stress • Drink adequate amount of water atleast 3-4 liters per day • Avoid drugs like aspirin • Antacids/ tab. Ranitidine 150mg twice daily for 10-14 days		• Refer to the nearest PHC for further management if symptoms persists

CHAPTER 4

COMMON SKIN CONDITIONS

4.1 Small Sores with pus (Pustules):

Skin infections in the form of small sores filled with pus often result from insect bites, minor injury, or lack of cleanliness. The skin over the scalp, both cheeks, forehead, back of the hands, at the base of hairs, etc. are the common sites for the development of small localized bacterial infections of the skin. Such sores appear as 1-2 or fewer in number and are not associated with any significant pain or swelling in the surrounding area. These are commonly found in children and adolescents. Pimples are common in adolescent.

Management at SHC-HWC level:

These infections are small and self-limiting and readily resolve within 3- 5 days. Only symptomatic care, cleanliness around the sores and good hygiene, etc. are needed. Oral or IV antibiotics are not needed for these small sores.

Table 16: Action points for management at the level of SHC-HWC by the CHO: Pustules

Actions		
What can you do independently	**What can you do in consultation with PHC MO**	**When to refer**
Instructions : • Wash the skin gently well with soap and lukewarm water, gently soaking the scabs; repeat till sores are resolved. • Leave small sores open to the air and bandage the large sores and change the bandage after every two days. • Do not scratch the sores to avoid the spread to other parts of the body. Cut the fingernails short especially in children. Avoid the contact of a child with infection with other children of the household.	• Local antibiotic ointments or creams can be given after consultation with PHC MO	• If the skin around the sore is red, swollen, and hot even after primary management and the patient is having a fever, then referral of the patient to the next nearest PHC is needed.

4.2 Impetigo or Pyoderma:

Pyoderma is a bacterial skin infection caused by *Staphylococcus aureus.* The disease is highly contagious and can easily spread to others through touch or direct skin contact with lesions.

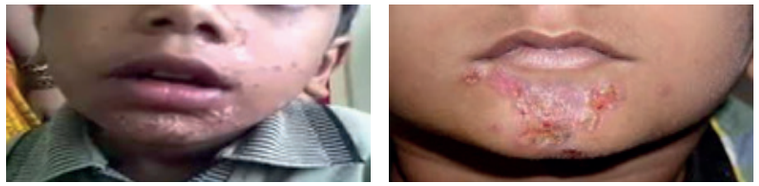


Fig 9: Pyoderma

- The classic presentation of the case is rapidly spreading multiple small to large pustules which are shiny and with yellow crust. The pustules are usually surrounded by red scratch marks.
- It often occurs on children's face, especially around the mouth, hands, and feet.

Management at SHC-HWC level:

Table 17: Action points for management at the level of SHC-HWC by the CHO: Pyoderma

Actions		
What can you do independently	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Wash the skin daily with soap and lukewarm water. • Clean the lesions with disinfectants as betadine. • Apply gentian violet solution twice daily. • Do not put occlusive dressing or adhesive tape on the lesions. • Look for co-existing infections such as lice, scabies, or ringworm. If present, initiate the treatment and management for the same.	• Tab./Syp. Amoxicillin 40-60 mg/kg body weight in three divided doses per day for 5 days. • Cotrimoxazole according to age/body weight can be given can be given if amoxicillin is not available after consultation with PHC MO (Adult dose:80mg+400mg twice daily for 5 days)	Refer if symptoms persist more than a week

4.3 Boils and Abscesses

A boil (furuncle) is a skin infection that starts in a hair follicle or oil gland. Most boils are caused by a germ (staphylococcal bacteria). These bacteria enter the skin through tiny nicks or cuts or can travel down the hair to the follicle.

To start with, a boil is a hard, red, painful lump usually about half an inch in size. Over the next few days, the lump becomes softer, larger, and more painful. Soon a pocket of pus becomes visible on the top of the boil.

Following are the signs of a severe infection:

- The skin around the boil becomes infected. It turns red, painful, warm, and swollen.
- More boils may appear around the original one.
- Nearby lymph nodes may also become swollen.
- The most common places for boils to appear are on the face, neck, armpits, shoulders, and buttocks.
- When one forms on the eyelid, it is called a sty.
- If several boils appear in a group, this is a more serious type of infection called a carbuncle (most commonly seen in diabetes mellitus)

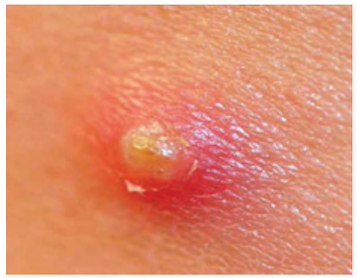


Fig 10: Boil

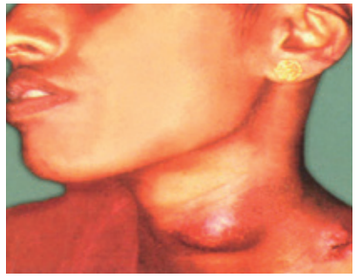


Fig 11: Abscess

An abscess is a tender mass generally surrounded by a colored area from pink to deep red. Superficial abscesses are often easy to feel by touch. Usually painful and warm to touch, the most common sites for superficial and subcutaneous abscesses are armpits (axillae), areas around genitals, the base of the spine, around a tooth (dental abscess). Deep abscess is not easily palpable e.g.perirenal abscess.

Unlike other infections, antibiotics alone will not usually cure an abscess. In general, an abscess must be opened and pus drained to reduce bacterial load, which is the source of infection.

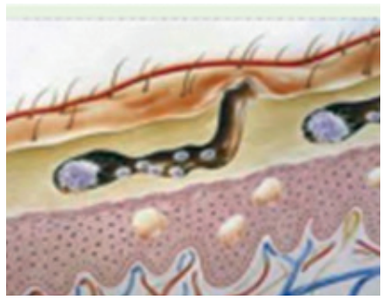
Management of boils and abscesses at SHC-HWC level:

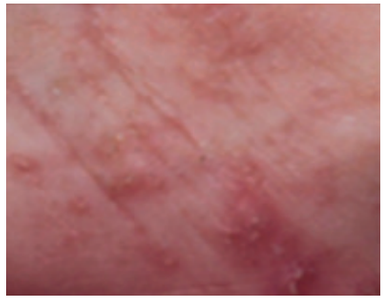
Table 18: ction points for management at the level of SHC-HWC by the CHO: Boils and Abscess

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Put hot compresses over the boil several times a day. • Let the boil break open by itself and procedure as pricking with needles or other sharp objects at home should be discouraged. Once it breaks, continue applying hot compresses. • Allow the pus to drain but never press or squeeze the boil, since this may cause the infection to spread to other parts of the body.	If the boil causes swollen nodes or fever, teleconsult with PHC-MO as antibiotic treatment needs to be started.	Refer to the nearest PHC if abscess persists. Drain either by needle aspiration or incision, and drainage followed by local or systemic antibiotics as needed.

4.4 Scabies

Scabies is a type of skin infection caused by small mites. Everyone is vulnerable to this condition, however, poor hygienic conditions are common predisposing factors. It is contagious and can spread very easily from person to person through close physical contact.





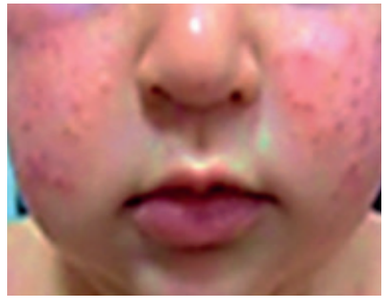


Table 19: Common Sites for Scabies Infection	
Adults and older Children - Between the fingers and around fingernails - Armpits - Waistline - Inner parts of the wrists - Inner elbow - Soles of the feet - The breasts, particularly the areas around the nipples - Genitalia in males - Buttocks - Knees and shoulder blades	Infants and young children - Scalp - Face - Neck - Palms of the hands - Soles of the feet

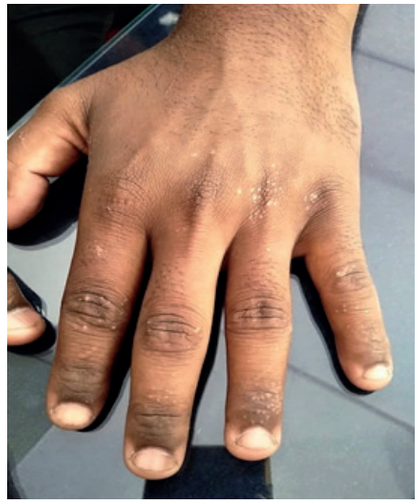


Fig 12: Scabies

Signs and symptoms of scabies include:

- Itching**:** This is often worse at night and can be severe and intense.
- Rash**:** When the mite burrows into the skin, it forms burrow tracks, or lines, which are most commonly found in skin folds, and resemble bites, knots, pimples, or patches of scaly skin. Blisters may also be present. But in many cases it is vey difficult to see the burrows in patients with scabies.

- Sores**:** These occur in infested areas where a person has scratched the skin. Open sores can develop secondary bacterial infection and lead to impetigo.
- Thick crusts**:** Crusted scabies is a form of severe scabies in which hundreds to thousands of mites and mite eggs are harbored within skin crusts, causing severe skin symptoms. Most often, those affected with crusted scabies exhibit widespread, grey, thick, crumbling crusts over the skin.

Management at SHC-HWC level

Table 20: Action points for management at the level of SHC-HWC by the CHO : Scabies

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Permethrin cream (5%) - The treatment should be applied to those with symptoms and contacts (usually a whole household and sexual contacts). All persons should be treated at the same time to prevent reinfestation (transmission of scabies by the asymptomatic member). • The cream should be applied at bedtime all over the body from the neck down to the feet and toes. In infants and young children, the cream should be applied to their entire head and neck but protecting eyes carefully; because scabies can affect their face, scalp, and neck, as well as the rest of their body. Particular attention must be given to areas such as the flexures, genitalia, between the fingers, under the fingernails, and behind the ears. Should be washed off the next morning. Clean clothing should be worn after treatment. • Bedding, clothing, and towels used by infested persons or their household, and close contacts (anytime during the three days before treatment) should be decontaminated by washing in hot water and drying in a hot dryer, by dry-cleaning, or by sealing in a plastic bag for at least 72 hours. • For itching, antihistamine- levocetirizine to be given • Itching may continue for several weeks after treatment even if all the mites and eggs are killed because the symptoms of scabies are due to a hypersensitivity reaction (allergy) to mites and their feces. • If itching is still present for more than 2 to 4 weeks after treatment or if new burrows or pimple-like rash lesions continue to appear, retreatment may be necessary.	Teleconsultation with PHC MO if antibiotics required	• Refer to the nearest PHC if skin sores become infected and persists more than a week

4.5 Candidiasis

It is one of the common fungal infections of mucosal surfaces (commonly buccal, throat, oesophageal, vaginal mucosa).It is most commonly seen in diabetes mellitus, patients on long term steroids, and immunocompromised patients including patients on cancer treatment. In infants leaving the wet or soiled diapers for long can be the cause.Vaginal candidiasis can be seen in pregnant women.

It appears as thick, white, exudative flakes firmly adhered to the mucosal surface. Oesophageal infection is usually limited to immunocompromised patients such as those living with HIV.

Management at SHC-HWC level:

Table 21: Action points for management at the level of SHC-HWC by the CHO : Candidiasis

Actions		
What can you do independently	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Daily bath and maintain personal hygiene. • Keep the affected area dry and clean. • Screening for diabetes mellitus and HIV infection and control of diabetes mellitus, if present.	• Oral fluconazole 150mg once daily for 1-2 weeks is recommended for moderate to severe oropharyngeal infection after teleconsultation • In case of oral/ mucosal candidiasis clotrimazole drops can be given • In case vaginal candiasis the clotrimazole vaginal pessary can be used	Refer if symptoms persists for more than 2 weeks after treatment

4.6 Ringworm:

Ringworm is a type of fungal infection caused by mold-like fungi that live on the dead tissues of skin, hair, and nails. Ringworm is highly contagious. The usual mode of transmission is direct or skin-to-skin contact, or through infected vectors like clothes, combs, or brushes of an infected person. It is also known to spread from the soil**.** People working barefoot in soil infected with the fungus can cause ringworm.

- A red, scaly patch or bump with severe itching sensation.
- Over time, the lesion turns into a ring- or circle-shaped patch. It may turn into several rings.
- The inside of the patch is usually clear or scaly. The outside might be slightly raised.
- The common sites include the flexor aspect of the elbow joint, knee joint, neck, groin area
- Some times in diabetics and other immunocompromised conditions like HIV generalized ringworm infection is seen.

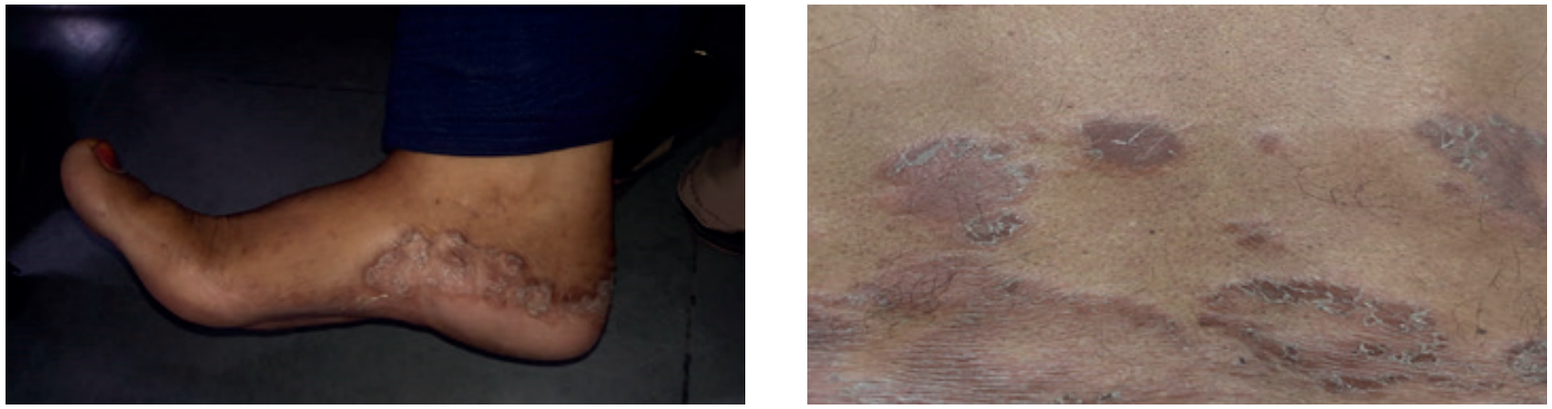


Fig 13: Ring worm

Management at SHC-HWC level:

Table 22: Action points for management at the level of SHC-HWC by the CHO : Ringworm

Actions		
What can you do independently	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Keep skin clean and dry. • Don't share clothes, towels, or hairbrushes with a person who is suffering from a ringworm infection. • Regularly wash hands with soap and water especially after playing with pets or touching the belongings of an infected person. • Recommend the patient to change their clothes at least twice a day especially when sweaty. • In case of generalised ringworm infection, take proper history regarding the frequent infections, history regarding any chronic disease • Test the blood sugar level	Topical Clotrimazole 1% cream twice a day for few weeks after teleconsultation with PHC MO	Refer if symptoms persists 2-3 weeks of treatment

4.7 Warts & Corns

Warts are benign (not cancerous) skin growths that appear when a virus infects the top layer of the skin. The common causative virus for warts is human papillomavirus (HPV). Most warts especially those in children, last 3 to 5 years and go away by themselves. Warts are highly contagious and are mainly passed by direct skin contact or through infected vectors such as towels or razors

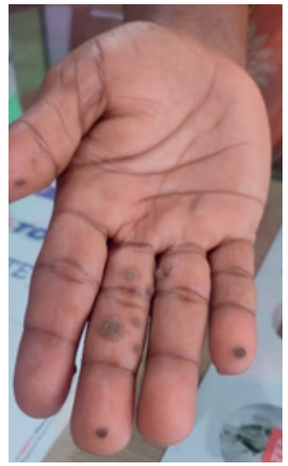


Fig 14: Common Warts

Common Warts: These flesh-colored growths are most often on the backs of hands, the fingers, the skin around nails, and the feet. They're small, from the size of a pinhead to a pea, and feel like rough, hard bumps. They may have black dots that look like seeds, which are tiny blood clots. Typically, they show up where the skin was broken, perhaps from biting fingernails. This can also transfer the virus from your hands to your face.

Plantar Warts: These warts got their name because "plantar" means "of the sole" in Latin. Unlike other warts, the pressure from walking and standing makes them grow into the skin.

Genital Warts: They look like small, scattered, skin-colored bumps or like a cluster of bumps similar to a little bit of cauliflower on or around the genitals. They spread through sexual contact with an infected person and are usually difficult to treat.

Fig 15: Flat Warts

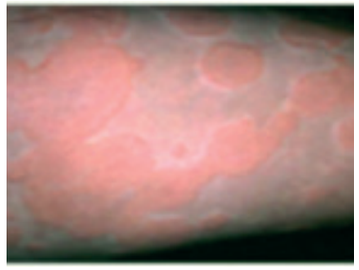


Fig 16: Urticaria or Hives

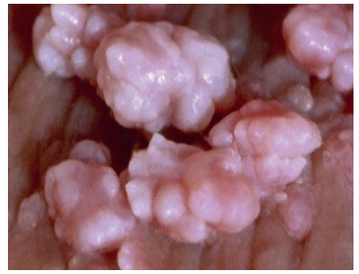
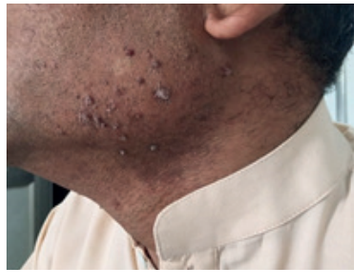


Fig 17: Genital Warts



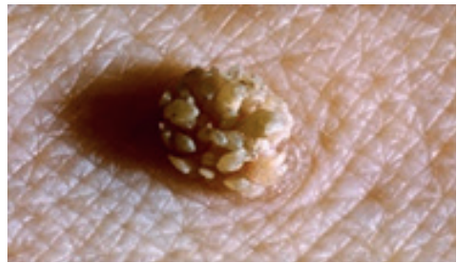


Fig 18: Filliform Warts

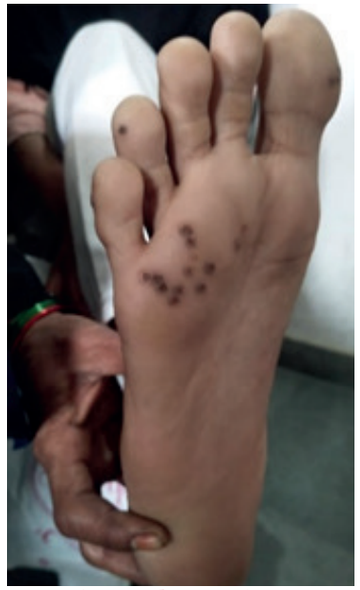


Fig 19:Plantar Warts

Management at SHC-HWC level:

Excision of warts is the treatment and there is no definite medical treatment indicated for warts. Most of them are harmless, and no treatment is needed unless they present with pain.

Table 23: Action points for management at the level of SHC-HWC by the CHO : Warts and Corns

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Wash your hands after touching warts. • Always keep foot warts dry • Treat pain with simple NSAIDs available • Don't touch, pick, or scratch warts.	Teleconsultation with PHC MO for acetyl salicylic acid application	Refer to PHC MO if excision is required

4.8 Urticaria or Hive:

Urticaria is an allergic reaction of the skin against some triggering factors. Some of the common triggering factors include scratchy clothes (such as wool or synthetic material), sweat, some chemical soaps or other household cleaning products, fruit juices, dust, or sudden temperature change, pressure, etc.

- Hives are thick, raised reddish spots or patches with immense itching.
- The lesion starts and develops over minutes.
- Many papules form at a time that may change shape or size over minutes to hours.

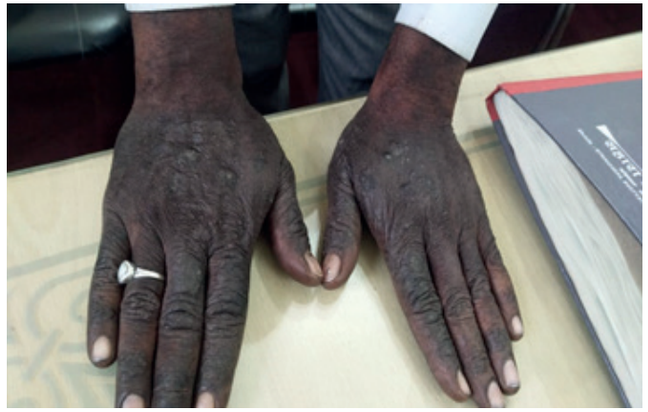
Management at SHC-HWC level:

Table 24: Action points for management at the level of SHC-HWC by the CHO : Urticaria and Hives

Actions		
What can you do independently:	What can you do in consultation with PHC MO	When to refer
Instructions: • Usually, these rashes subside on their own, however, if the itching/ eruptions persist, give one Tab. Chlorpheniramine 25mg stat. If the eruptions do not subside, repeat the tablet every twelve hourly until the patches and itching sensation subsides. • Identify the cause of allergy and prevent exposure to that allergen. • Apply calamine lotion to soothen the skin	Teleconsult the PHC MO if chronic urticaria is suspected	In case the allergen is a medicine, stop the treatment and refer to the nearest PHC for alternative medication

4.9 Eczema or atopic dermatitis

Eczema is a condition where patches of skin become inflamed, itchy, red, cracked, and rough. Blisters may sometimes occur. The exact cause of eczema is unknown, but it's thought to be linked to an overactive allergic response by the body's immune system to an irritant. It is this response that causes the symptoms of eczema**.** Following are the commonly reported symptoms:

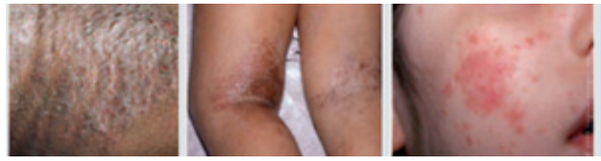


Dryness of skin and itching sensation

- Red to brownish-gray patches, especially on the hands, feet, ankles, wrists, neck, upper chest, eyelids, inside the bend of the elbows and knees, and in infants, the face and scalp
- Thickened, cracked, scaly skin
- Raw, sensitive, swollen skin from scratching
- Small, raised bumps or rash, which may leak fluid and crust over when scratched

Management at SHC-HWC level:

Table 25: Action points for management at the level of SHC-HWC by the CHO : Eczema

Actions		
What can you do independently	**What can you do in consultation with PHC MO**	**When to refer**
• Detailed history to be taken • Advise to avoid triggers that worsen the condition. They commonly include exposure to pollen grains, dust, certain soaps, and detergents, etc. • Topical skin moisturizers at least twice a day, use creams, ointments, and lotions	Topical corticosteroids, antihistamines, and antiseptics can be prescribed after teleconsultation with PHC MO	Refer if symptoms persists for more than 1-2 week. 

4.10 Herpes simplex:

Herpes simplex commonly known as herpes is a viral infection, generally categorized in two commonly known types: herpes type 1 (HSV-1, or oral herpes) and herpes type 2 (HSV-2, or genital herpes). Herpes simplex type 1, which is transmitted through oral secretions or sores on the skin, can be spread through contact or sharing objects such as toothbrushes or eating utensils. In general, a person can only get herpes type 2 infection during sexual contact with someone who has a genital HSV-2 infection. It is important to know that both HSV-1 and HSV-2 can be spread even if sores are not present.

In HSV-1, several vesicles appear suddenly around the month and lips (sometimes called fever blisters or cold sores).

HSV-1 can cause genital herpes, but most cases of genital herpes are caused by herpes type 2. In HSV-2, the presence of sores around the genitals or rectum is the usual presentation.

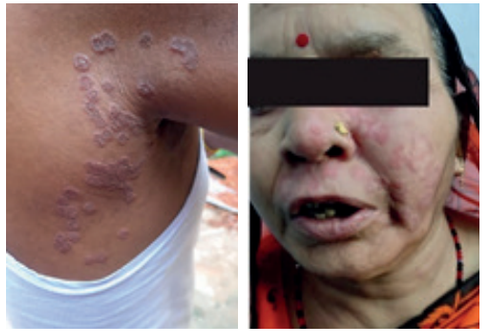


Fig 20: Herpes Simplex

Management at SHC-HWC level:

Table 26: Action points for management at the level of SHC-HWC by the CHO : Herpes Simplex

Actions		
What can you do independently:	What can you do in consultation with PHC MO	When to refer
• Advise your patient to maintain cleanliness around the lesions by using betadine solution.	• Acyclovir to be prescribed after the teleconsultation	• Refer if pus or redness develops in the surrounding parts

CHAPTER 5

COMMON SURGICAL CONDITIONS

5.1 HYDROCELE

Hydrocele is a scrotal swelling that contains an excessive amount of clear fluid within the scrotal sac around the testis.

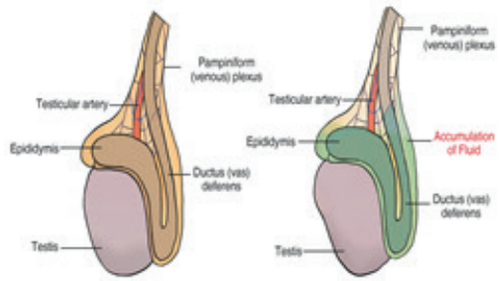


Fig 22: Hydrocele

Causes:

- Filariasis
- Trauma or injury
- Infections including STIs, TB
- Congenital
- Cancer

Clinical Features

- Painless swelling in the scrotum: Hydrocele is usually neither painful nor tender to touch.
- Trans-illumination test: Illumination can be observed over the hydrocele on one side when a light source is kept on the other pole, and light rays are passed through the clear fluid of the hydrocele sac.
- Fluctuation positive: When swelling is held in both hands-on either pole and pressure is put on by one hand, the other hand can feel the fluctuation/ impulse in the swelling.

- Generally hydrocele is confused with hernia. The following tests were used to differentiate hydrocele from hernia:
    - Irreducible: Swelling cannot be manually decreased, unlike an inguinal hernia.
    - No cough impulse: Ask the patient to cough while palpating the mass after reducing the mass. No impulse is felt over the swelling when the patient is asked to cough. The presence of cough impulse indicates hernia.

Management at the SHC-HWC level:

Table 27: Action points for management at the level of SHC-HWC by the CHO : Hydrocele

Actions		
What can you do independently:	What can you in consultation with PHC MO	When to refer
• Most important of all the things in the management of hydrocele is to get detailed history to evaluate and find the probable cause of the development of hydrocele. • Further evaluation is indicated for such patients and detailed history for local symptoms and careful head-to-toe exam should be done to identify the location of pathology • Advise on support of scrotum with tight-fitting underwear or a scrotal support (jock strap) • Advise patients to avoid straddling like riding a bike, horse, etc. for 3 to 4 weeks after surgery. Other strenuous activities like lifting heavy weights should be avoided for a month		• Refer to the nearest PHC if hydrocele is suspected for further evaluation and treatment

5.2 ANAL FISSURES

An anal fissure is a break or tear in the skin of the anal canal. Constipation is commonly associated with the development of anal fissures and it is both a causative factor and a clinical symptom associated with anal fissure.

Causes:

- Chronic constipation, hard stools, and straining during bowel movements
- Straining during childbirth
- Decreased blood flow to the anorectal area
- Anal sex
- Crohn's disease and Ulcerative Colitis

Clinical Features:

- Sharp pain in the anal area during bowel movements, that relieves gradually and spontaneously in some time and reappears again during the next bowel evacuation.
- A small streak of fresh bright red colored blood over stools
- Burning or itching in the anal area
- Visible tear in the skin around the anus
- Skin tag, or small lump of skin, next to the tear

Diagnosis:

Diagnosis is confirmed by clinical assessment only. The history of the above symptoms is quite specific for anal fissure and a visible ulcer on rectal exam confirms the diagnosis. But as the fissure is painful, a rectal exam is not indicated.

Management at SHC-HWC level:

In most cases, anal fissure would heal itself in a duration of few days to over a week. Supportive management is required.

Fig 23: Sitz bath

Table 28: Action points for management at the level of SHC-HWC by the CHO: Anal fissures

Actions		
What can you do independently	What can you do in consultation with PHC MO	When to refer
A. Preventive management o Avoid straining during bowel movements/defecation o Increase in dietary fiber and fluids o Anal region hygiene o Weight reduction o Avoid heavy weight lifting B. Non-pharmacological management o Sitz bath to relax the anal muscles, relieve irritation and increase blood flow to the anorectal area C. Pharmacological management o Apply topical pain relievers, such as lidocaine or lignocaine gel.	Prescription of local anaesthetic agents after tele-consultation with PHC MO	• Refer to PHC if symptoms persists

5.3 PILES/ HAEMORRHOIDS

Hemorrhoids are swellings containing enlarged blood vessels found inside or around the rectum and anus. They may rupture and cause bleeding from the anus.

Causes

- Irregular bowel habits
- Low-fiber diets
- Increased intra-abdominal pressure (Chronic constipation, pregnancy, etc.)
- Obesity
- Chronic cough, COPD
- Chronic liver disease, Portal hypertension

Clinical Features

- External Haemorrhoids
  - Pain on touch, while sitting and during defecation
  - Swelling around anus
  - Bleeding near anus during defecation or otherwise
- Internal Haemorrhoids
  - Usually painless
  - Bleeding per rectum during defecation
  - Prolapse of piles may be present in some cases.

Diagnosis

Diagnosis is confirmed by clinical assessment only. The history of symptoms is distinctly clear for both internal and external hemorrhoids and a local perianal and rectal exam is needed to confirm either of them.

A rectal exam in a patient with internal hemorrhoids suggests the presence of large swollen veins, painless to touch, and may or may not bleed during the exam.

Local perianal exam in a patient with external hemorrhoids suggests few painful skin tags around and close to the anus associated with skin ulcers and/or bleeding.

Management at SHC-HWC level:

Table 29: Action points for management at the level of SHC-HWC by the CHO: Piles

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
• Advice to increase high fiber diet and plenty of fluids. • Sitz bath (sitting in a tub of lukewarm water for 15-20 minutes) • Pain killers such as NSAIDs • Laxatives and stool softeners to relieve constipation such as Isabgol husk 2-3 teaspoons a day	• On teleconsultation with PHC MO steroids containing topical agents may be prescribed but should not be used for more than 2 weeks.	• Refer to the nearest PHC if symptoms persists on initial treatment. • Surgical treatment is indicated if symptoms are not resolved with other treatment strategies. • Rubber band ligation and sclerotherapy are commonly used methods

5.4 BED SORES

Bedsores, also called pressure ulcers are injuries to the skin and underlying tissue resulting from prolonged pressure on the skin. Bedsores most often develop on skin that covers pressure points and bony areas of the body, such as the heels, ankles, hips, and tailbone. People suffering from chronic diseases that limit their ability to change positions or those who spend most of their time in a bed or chair are at increased risk of the development of bedsores. Most sores heal with treatment, but some never heal completely.

Warning signs of pressure ulcers are:

- Changes in skin color or texture
- Swelling/edema over dependent parts
- Pus discharge and thick slough over the ulcer

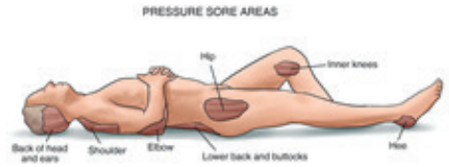


Fig 24: Pressure sore areas

Bed sores fall into one of several stages based on their depth, severity, and other characteristics. The degree of skin and tissue damage ranges from red, unbroken skin to a deep injury involving muscle and bone.

Management at SHC-HWC level:

Table 30: Action points for management at the level of SHC-HWC by the CHO: Bed Sores

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
• Relieve the affected part from pressure by moving the patient or using pillows to elevate parts of the body. Teach family members to change the position of the patient in bed frequently. • Use soft bed sheets and padding. Ask the family to change the beddings daily or at least thrice a week to avoid infection. • Clean the wound: Minor wounds may be gently washed with water and mild soap. Open sores need to be cleaned with a saline solution each time the dressing is changed. • Remove dead tissue: A wound does not heal well if dead or infected tissue is present, so debridement is necessary. • Change dressings: These protect the wound and accelerate healing; frequent change of dressing is needed. • Counsel the family in feeding the patient well, as this would improve the immunity. • Advise on improvement of nutrition • Pain medications if necessary • As the patients who have developed bed sores are bed-ridden and may face difficulty in traveling to the PHC for further treatment. You as a CHO can make arrangements for regular visits to the household for cleaning and dressing of the sore.		

5.5 VARICOSE VEINS

These are defined as tortuous dilated veins. The term commonly refers to the veins on the leg, although varicose veins can occur elsewhere. Veins have pairs of leaf-like valves to prevent blood from flowing backward. Leg muscles pump the veins to return blood to the heart, against the effect of gravity. When the leaf of the valves no longer functions properly, veins become varicose. This allows blood to flow backward and the veins enlarge even more.

Prolonged standing and obesity are common risk factors.

Clinical Features:

Clinical presentation for varicose ranges from mild to severe forms with the following symptoms in that order:

- An achy or heavy feeling in your legs
- Burning, throbbing, muscle cramping, and swelling in your lower legs
- Worsened pain after sitting or standing for a long time

Itching of skin and ulcers around one or more of your veins over legs and near the ankle

- Bleeding from varicose veins

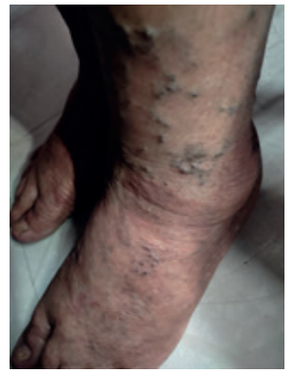


Fig 25: Varicose Veins

Management at SHC-HWC level:

Table 31: Action points for management at the level of SHC-HWC by the CHO: Varicose vein

Actions		
What can you do independently:	What can you do in consultation with PHC MO	When to refer
Advice your patient of the following measures to prevent stasis of blood in the varicose veins: • Avoid continuous, long periods of standing, Keep moving your legs during standing. • Leg elevation • Compression stockings for mild forms • Use of pain medicines,	Treatment to be initiated after consultation with PHC MO	Refer to the nearest PHC if patient presents with enlarged veins accompanied by severe pain.

5.6 BENIGN PROSTATIC HYPERPLASIA

Benign prostatic hyperplasia (BPH) is an enlarged prostate. As the prostate enlarges, it can then squeeze down the urethra. The bladder wall becomes thicker and eventually, it may weaken and lose the ability to empty urine completely leaving some urine in the bladder. The narrowing of the urethra and urinary retention causes many of the problems associated with benign prostatic hyperplasia.

BPH typically begins after the age of 50. Half of the men aged 60 years and over are affected. After the age of 80, about 90% of men are affected.

Clinical Features:

The prostate gland is located just below the bladder at the junction with the urethra and anterior to the rectum. Part of the urethra traverses through the prostate gland and is covered on all sides by this gland and therefore also called as 'Prostatic Urethra'. Thus, symptoms of lower urinary tract appear as below:

- Need to urinate often, can be every one to two hours, especially at night.
- Feeling that the bladder is full, even immediately after passing urine
- Straining for micturition
- Urgency to urinate
- Weak urine flow and a thin stream of urine
- Dribbling of urine
- Trouble starting to urinate

Diagnosis:

Diagnosis is clinical and is based on the above-mentioned symptoms along with digital rectal examination (DRE). An enlarged prostate gland on rectal examination that is symmetric and smooth supports the diagnosis of BPH.

Management at SHC-HWC level:

Table 32: Action points for management at the level of SHC-HWC by the CHO: Benign Prostate Hyperplasia

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**

• Lifestyle modification advice:
  ○ Increased physical activity
  ○ Decreasing fluid intake before bedtime
  ○ Moderating the consumption of alcohol and caffeine-containing products
• Following a frequently timed voiding schedule
	Alpha blockers prescribed on teleconsultation with PHC MO to improve the symptoms	Refer to MO PHC for further management. Medicines are available which only help to decrease symptoms temporarily for over a few months and delays surgery, but surgical removal of the prostate is the definitive treatment

Many a times the patients with prostatic hyperplasia presents with symptoms of repeated urinary tract infection. Thus everytime you see a patient with urinary tract infection and he is elderly always ruleout the symptoms of prostatic hyperplasia. All patients with BPH must be referred to the medical officers for further evaluation to ruleout prostatic malignancy.

5.7 PERIPHERAL VASCULAR DISEASE OF UPPER AND LOWER LIMBS

Peripheral artery disease (PAD) is a narrowing of the arteries other than those that supply the heart or the brain. When narrowing occurs in the arteries to the heart, it is called coronary artery disease: while it is called cerebrovascular disease for the arteries to the brain.

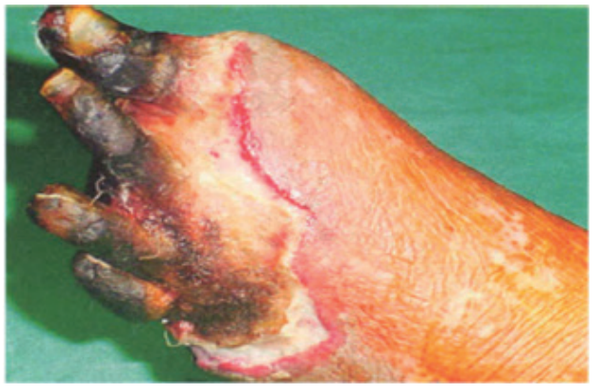
Risk Factors:

1. Smoking: Smokers have up to a tenfold increase in relative risk for PAD in a dose-response relationship.
2. Diabetes mellitus
3. Dyslipidaemia
4. Hypertension
5. Age > 50 years

Clinical Features:

Despite the variety of causative and risk factors, peripheral vascular disease leads to the decreased blood supply to respective limbs and results in the death of local tissue and the development of gangrenous degeneration of fingers or toes. Following are the other symptoms and signs associated with the disease, one or more of which may present at a time:

- Pain on walking is relieved by rest.
- Continuous pain is not relieved by rest and gets worse at night.
- Change in color of the affected limb: Pallor or paleness is a feature of acute arterial obstruction; cyanosis or bluish discoloration is a feature of severely decreased blood supply and shortage of oxygen. In severe cases, parts or finger of a limb with poor blood supply shows black discoloration due to gangrene.
- Affected limb or part is cold to touch compared to normally functioning parts of same or other limbs.
- Thinning of the skin, decreased hair growth over the affected limb.



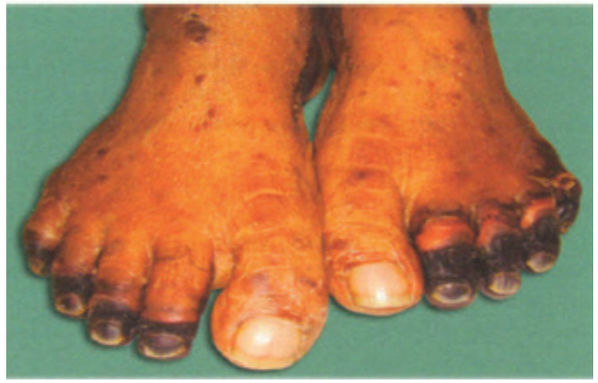
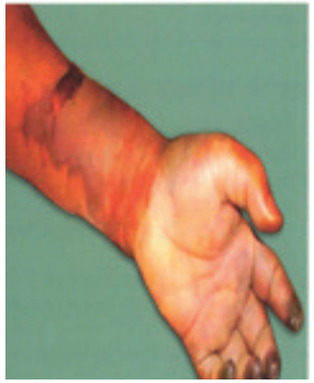


Fig 26: Gangrene of the feet and toes



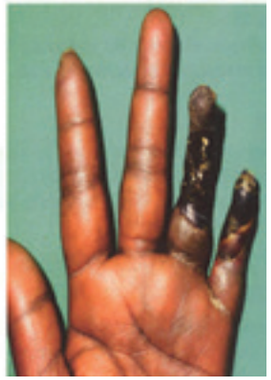


Fig 27: Gangrene of the hands

Management at SHC-HWC level:

Table 33: Action points for management at the level of SHC-HWC by the CHO: Peripheral Artery Disease

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
a. Lifestyle modification advice: o Smoking Cessation o Diabetes and Hypertension control o Regular exercise b. Pharmacological treatment o Pain control with Aspirin, Ibuprofen, etc. o Care of wound or ulcer	Teleconsultation to check on medications for sugar and blood pressure cintrol	• Refer to PHC for further evaluation and management

CHAPTER 6

COMMON OBSTETRICS/GYNAECOLOGICAL CONDITIONS

6.1 LEUCORRHEA

It is a condition characterized by excessive normal vaginal discharge. It is non-purulent and non-offensive discharge which is non irritant to the surrounding skin. Excessive discharge can be seen at puberty, during the premenstrual phase of the menstrual cycle, during pregnancy and at ovulation.

Causes:

- Hormone related
- Post menopausal
- Cervical: polyp/erosion
- Foreign body:tampoon/pessary
- Contamination with urine or faeces
- Chemicals- deodorants, condoms
- Cancer

Clinical features:

- Excessive discharge
- Itching at the site

- Painful urination (dysuria)
- Pain on intercourse (dyspareunia)
- Pelvic pain

Management at SHC-HWC level:

Table 34: Action points for management at the level of SHC-HWC by the CHO: Leucorrhea

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**

Instructions:
• Improvement of general health of the patient
• Instruct on local hygiene
  ○ Wash the area with warm water daily
  ○ Avoid using scented soaps and gels
  ○ After using the toilet wipe the area dry from front to back
• Avoid tight fitting pants, wear cotton underwear and change it regularly
	Metronidazole cream or gel to be prescribed on teleconsultation with PHC MO	• Refer to the nearest PHC for further management if discharge persists for more than 2 weeks.

6.2 VAGINITIS

Infection of the vagina is called vaginitis .

Causes:

- Vulvovaginitis – inflammatory condition of vulva and vagina in the childhood
- Infective -trichomonas, candida
- Post menopausal
- Foreign body-tampons, pessary

Clinical features:

- Excessive discharge
- Itching at the site
- Painful urination (dysuria)

- Pain on intercourse (dyspareunia)
- Pelvic pain

Management at SHC-HWC level:

Table 35: Action points for management at the level of SHC-HWC by the CHO: Vaginitis

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**

Instructions:
• Improvement of general health of the patient
• Instruct on local hygiene
  ○ Wash the area with warm water daily
  ○ Avoid using scented soaps and gels
  ○ After using the toilet wipe the area dry from front to back
• Avoid tight fitting pants, wear cotton underwear and change it regularly
		• Refer to the nearest PHC for further management. Local application of antibiotics or clobetasol propionate 0.05 percent ointment may be suggested.

6.3 DYSMENORRHEA

Dysmenorrhea is painful menstruation.

Types:

1. Primary –There is no identifiable pelvic pathology. It is more commonly seen in adolescent girls.The pain begins few hours before or just with the onset of menstruation. Pain lasts for few hours or may extend upto 24-48 hours.
2. Secondary- It is associated with pelvic pathology. Most common causes are fibroids, endometriosis , polyps , stenosis etc. It usually appears 3-5 days prior to the period and relieves with the start of the bleeding.

Clinical features:

- Pain is spasmodic and confined to lower abdomen; may radiate to the back(primary).Pain is dull; present in the front and back without radiation (secondary).
- May be associated with nausea and vomiting

Fig 28: Weakness and Headache as a symptom of dysmenorrhea

Management at SHC-HWC level:

Table 36: Action points for management at the level of SHC-HWC by the CHO: Dysmenorrhea

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Give assurance for improvement of general health by eating healthy diet and follow regular exercise • During menstruation bowel should be empty • Mild analgesics and antispasmodics may be prescribed. Mefenamic acid 250-500mg 8th hourly can be given.		Refer to the nearest PHC for further management if secondary dysmernorrhea is noticed.

6.4 GENITAL ULCERS

Ulcers in genital area can be due to infectious or noninfectious causes. It is predominantly due to sexually transmitted diseseases (STDs). Ulcers can occur at the vulva,vagina and cervix.

Common causes:

- STD related- Herpes, syphilis,
- Tuberculosis
- Fungal -candida
- Cancer
- Systemic disease- Crohns disease, lupus

Risk factors:

- Multiple sex partners
- Unprotected sexual contact
- Unprotected skin to skin contact with ulcers
- Lack of male circumcision
- HIV

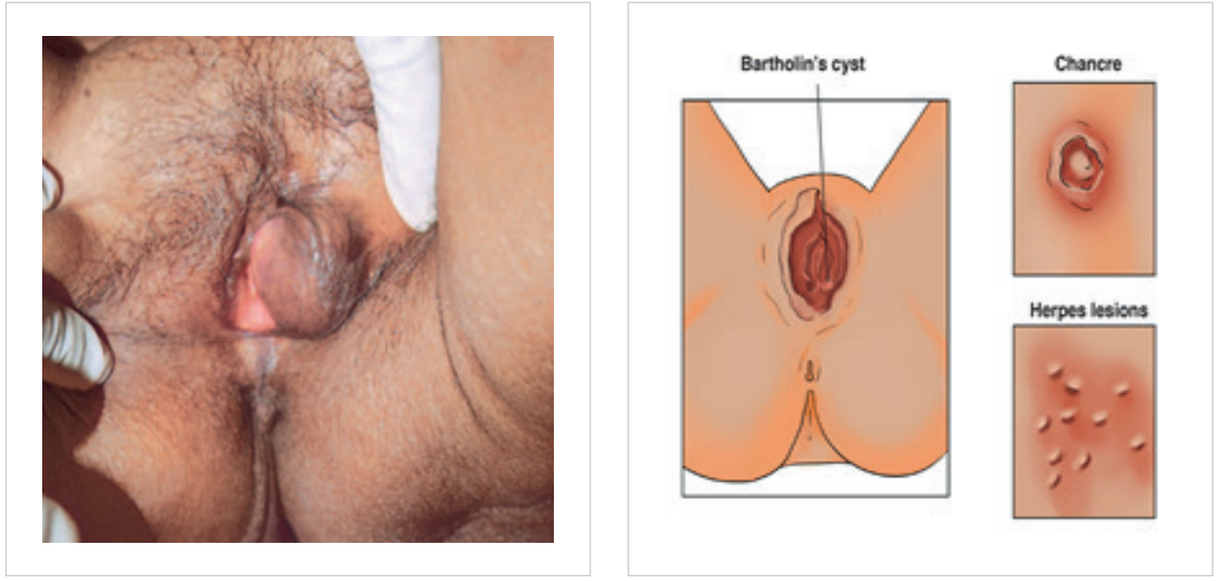


Fig 29: Bartholin's Cysts

Clinical features:

- Pain /painless ulcer
- Discharge from the ulcer
- Painful or difficult in urination
- Itching at the site
- Fever

Management at SHC-HWC level:

Table 37: Action points for management at the level of SHC-HWC by the CHO: Genital Ulcers

Actions		
What can you do independently:	What can you do in consultation with PHC MO	When to refer
Instructions: • Counselling on reducing risk factors for STDs- avoid multiple sex partners, practice safe sex by use of condoms • Regular screening for STDs • Instruct on local hygiene -Cleaning of ulcer with soap and water • Pain medications to reduce the pain	Appropriate antiviral agents / antibiotics to be prescribed for STDs after teleconsultation with PHC MO	Refer to the nearest PHC for further evaluation & management

6.5 MENORRHAGIA

Menorrhagia is defined as cyclic bleeding at normal intervals. It is either bleeding in excessive amount (more than 80 ml) or duration (more than 7 days) or both.

Causes:

- Dysfunctional uterine bleeding
- Fibroid uterus
- Adenomyosis
- Chronic tubo-ovarian mass
- IUCDs (usually Initial 3-4 months after insertion)

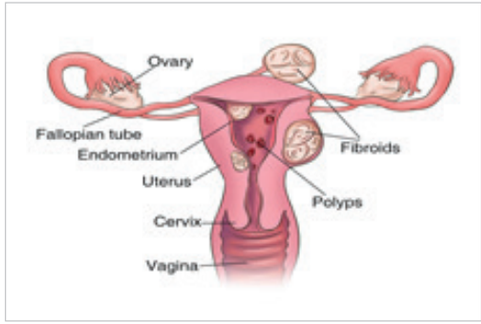


Fig 30 : Anatomical causes of menorrhagia

Management at SHC-HWC level:

Table 38: Action points for management at the level of SHC-HWC by the CHO: Menorrhagia

Actions		
What can you do independently:	What can you do in consultation with PHC MO	When to refer
Instructions: • Assurance and counselling on healthy diet • Rest during bleeding phase • Regular intake of iron-folic acid tablets		• Refer to the nearest PHC for further investigations and management

6.6 BREAST TENDERNESS

Breast pain (mastalgia) is described as throbbing/sharp/burning or tightness in the breast. Pain may be constant or occasional. Pain due to the infection at the blocked milk duct is called as mastitis.

Types:

1. Cyclic: Pain occurs on regular pattern.
    - Related to menstrual cycles and change in hormone levels
    - Pain is dull or aching
    - Associated with breast swelling/fullness
    - Affects both the breasts
    - Usually seen in women in the age group of 20s or 30s
2. Noncyclic: Pain is constant.
    - Unrelated to menstrual cycle
    - It is burning or stabbing type of pain
    - Affects one breast or localized area affected
    - Usually seen in post menopause

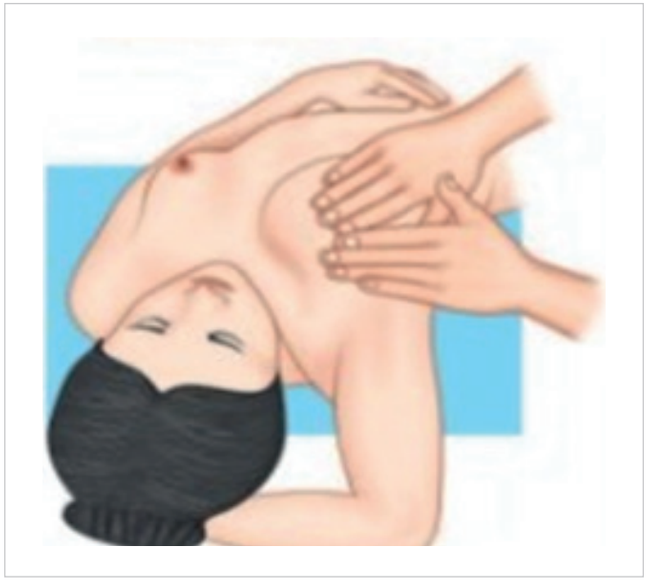


Fig 31 : Breast Examination

Management at SHC-HWC level:

Table 39: Action points for management at the level of SHC-HWC by the CHO: Breast Tenderness

Actions		
What can you do independently:	**What can you do in consultation with PHC MO**	**When to refer**
Instructions: • Instruction on wearing properly fitted bra • Use of hot /cold compresses • Use of over the counter medications to relieve pain • Reduce intake of caffeine	Antibiotics to be prescribed after teleconsultation with PHC MO if mastitis is suspected	• Refer the nearest PHC if pain/swelling / redness persist after initial treatment

CHAPTER 7

REFERRAL

Referral: The process of directing or redirecting a patient to an appropriate specialist or hospital for definitive treatment.

Referral Form: It is standard form with all the required information. It includes minimum information that should be provided with all referral requests. The additional information may be based on agreement between the consulting and referred doctor or may be provided based on the need at the time of referral.

Name of the Referring Facility: _____

Address: _____

Telephone: _____

Name of Patient: _____Age:_____

Referred on ___/___/___ (dd/mm/yr.) at _____ (time) to _____ _____ (Name of the facility) for management.

Provisional Diagnosis:

Admitted in the referring facility on ___/___/____ (dd/mm/yr.) at _____ (time) with chief complaints of:

_____

_____

Mode of Transport for Referral: Govt/Outsourced/EMRI/Personal/Others/None.

Signature of Referring Physician/MO (Name/Designation/Stamp)

Annexure 1 : Evaluation and management of febrile illnesses

System	Localizing symptoms	Probable cause	Treatment/Management

Upper Respiratory	• Runny nose, sneezing, mild cough, mild sore throat,
	• Malaise, headache, myalgia may be present as well
		Common cold - viral infection in most cases
		Keep elderly patients and people with pre-existing diseases under watch for worsening
			• No need for antibiotics
			• Symptomatic treatment
			  ○ Paracetamol
			  ○ Levocetirizine
			• Rest
			• Plenty of fluids
			• Follow up in 48 hours or if symptoms worsen

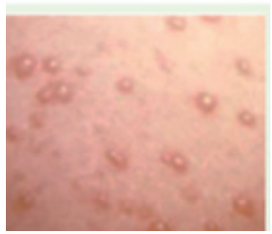
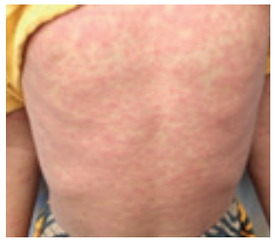
Upper Respiratory	• Fever • Nasal congestion or blockage, • Facial pain and tenderness • Postnasal drip • Frequent clearing of the throat	**Acute sinusitis-**commonly a viral infection, less commonly bacterial Suspect bacterial infection if: 1. Acute onset of high fever with facial pain or purulent nasal discharge for at least 3- 4 days 2. Persistence and non-improvement of symptoms and signs of acute rhinosinusitis beyond 10 days	For viral sinusitis-symptomatic management ○ Steam inhalation ○ Levocetirizine ○ Paracetamol ○ Saline nasal wash/drops For bacterial sinusitis: symptomatic management with • Amoxicillin 500 mg thrice a day (TDS) for 5-7 days for adults and children > 40 kg in weight • Amoxicillin 25 mg/kg/day in three divided doses for 10-14 days in children

System	Localizing symptoms	Probable cause	Treatment/Management
Upper Respiratory	High fever with a marked sore throat, pain on swallowing but no cough	**Acute bacterial pharyngitis or tonsillitis**: Give antibiotic if three or more of these present • Fever • Absence of cough • Tonsillar exudates • Cervical lymphadenopathy • Age< 15 years or >45 years Watch out for peritonsillar abscess: Stiff jaw /difficulty in opening of the mouth, drooling of saliva, respiratory distress, swelling in neck or back of the tongue in cases of sore throat	• Amoxicillin for 10 days • Paracetamol and pain killer • Warm saline gargles • Plenty of warm fluids • Refer if peritonsillar abscess suspected

System	Localizing symptoms	Probable cause	Treatment/Management
Lower Respiratory	Fever < 1-week duration with cough At least one systemic feature (temperature >37.7°C, chills, and/or rigors, severe malaise) AND Cough with at least one of lower respiratory tract symptoms - sputum production, breathlessness, wheeze, chest pain AND no s/s of sinusitis and no h/o asthma/ COPD **On Examination** Fast breathing +/- Respiratory distress +/- New focal chest signs on examination (bronchial breath sounds and/or crackles)	**Pneumonia** A chest X-Ray is needed to confirm pneumonia	Follow up closely and Refer to the nearest PHC for tests and management, if no improvement in 48 hours or worsening of symptoms Pneumonia in children 0-5 years: as per IMNCI
Lower Respiratory	Mild fever, productive cough, no localizing chest signs (dyspnoea, wheeze, and chest discomfort or pain)	**Acute bronchitis**- a Lower Respiratory Tract Infection that is often viral and not bacterial	Symptomatic management • Paracetamol • Salbutamol nebulization if wheeze is present Refer if respiratory distress develops.
Lower Respiratory	Fever and increased cough and sputum production in a known patient of COPD/ Asthma	**Acute exacerbation of COPD/Asthma** Chest X-Ray may be needed	Refer to the nearest PHC

System	Localizing symptoms	Probable cause	Treatment/Management
Lower Respiratory	Fever – low grade and productive cough for >2 weeks Maybe weight loss, loss of appetite	**Pulmonary Tuberculosis**	Collect sputum for AFB (2 samples) and send to PHC or nearest microscopy center, and refer patient (refer to Communicable disease module for details)
Gastro-Intestinal	• High-grade fever, with a continuous stabbing pain in the lower chest or upper quadrant of the abdomen • Severe malaise, sweating, anorexia, and weight loss O/E: dullness over right lung base, enlarged and tender liver, and intercostal tenderness	**Liver Abscess**	Refer to the next nearest health facility for USG confirmation and treatment
Gastro-Intestinal	• High-grade remittent fever (fever present all day but fluctuates in degree) • Abdominal pain/tenderness • Nausea/vomiting • With diarrhea or constipation	**Typhoid/enteric fever**	Refer to the nearest PHC for confirmation of diagnosis and specific treatment. Duration of treatment: 10- 14 days. It takes 3–5 days for the fever to subside completely, although the height of the fever decreases each day. Patients may feel worse initially.
Gastro-Intestinal	Low-grade fever associated with loss of appetite, nausea, vomiting, malaise There may be mild and constant abdominal pain in the right upper quadrant or epigastrium. Jaundice occurs after 5-10 days but may appear at the same time as the initial symptoms.	**The most common cause is viral hepatitis** In these cases, **if no jaundice-** testing for Malaria, Dengue would be done to rule these out	Refer to the nearest PHC if jaundice is there/severe symptoms OR Refer all cases for investigations

System	Localizing symptoms	Probable cause	Treatment/Management
Gastro Intestinal	• Fever • Loose stools- passing of 10-30 small stools a day. • Pain during defecation/tenesmus • Blood may be present in the stool. • Dehydration is not normally present.	**Dysentery-** amoebic or bacillary	Tab. Metrogyl 400 mg TDS for 7-10 days or Tab.Ciprofloxacin 500mg BD for 7-10 days Oral rehydration therapy. Refer to the the nearest PHC if worsening of symptoms.
Gastro-Intestinal	Watery diarrhea and vomiting, fever Check the level of dehydration (as per the table in the diarrhea module)	**Acute gastroenteritis** **R/o cholera** • Large rice water or watery stools • No pain • Quickly developing dehydration	No need for antibiotics usually **If cholera suspected** Doxycycline 300mg Oral stat or Azithromycin Oral in children (20mg/kg) and pregnant women (1g) Patients with severe dehydration require IV Fluids under admission, refer to the nearest PHC after giving 1 liter of fluid quickly (over half an hour) and ORS for the transfer **Mild/moderate dehydration- manage as per diarrhea module**
Genito Urinary	Burning in micturition, mild fever, frequency of urine, suprapubic pain Watch out for urethral discharge in men / vaginal discharge in women Watch out for upper UTI: High-grade fever with rigors, vomiting, tenderness in renal angles, if the patient is diabetic, etc.	UTI	**Manage as per UTI module**
Genito Urinary	Genital ulcers, sores Vaginal discharge and lower abdominal pain in women	Common causes: Herpes Simplex, LGV, Chancroid	Treat as per STI/RTI syndrome Refer **module on communicable diseases**

System	Localizing symptoms	Probable cause	Treatment/Management
Fever with rash	• Low-grade fever, and malaise • Itchy rash which first appears on face and trunk and then goes to extremities • The rash is at first flat and red but changes in blisters Healing blisters have a crust on them • Multiple crops in 4-5 days	**Chicken Pox**  Fig 32: Chicken Pox In children, the disease resolves mostly without complications, but adults and immunocompromised (diabetic, autoimmune disease and cancer patients, etc.) severe disease	Usually, only symptomatic treatment is required. Refer to the the nearest PHC or specific antiviral treatment (Acyclovir). • Proper skin, mouth, eyes care, daily baths, and trimming of nails • Levocetirizine 5 mg daily at night • Local application of calamine or zinc oxide • Paracetamol for fever • Lots of oral fluids
Fever with rash	The red flat non-itchy rash first appears on the forehead, behind the ears, then spreads from head to trunk and extremities over the next 48 hours The rash fades in 3-4 days by getting brownish A patient may have small grey-white spots in the posterior part of the mouth (Koplik's Spots) Mostly in children	**Measles**  Fig 33: Measles	• Proper skin, mouth, eye care • Paracetamol for fever • Vitamin A supplementation for all children with measles • Lots of oral fluids

System	Localizing symptoms	Probable cause	Treatment/Management
Musculo Skeletal	Joint pain and swelling	**Septic Arthritis or Osteomyelitis (Single joint)** If there is severe pain & swelling in a single joint and fever in a child **Polyarthritis (More than one joint involved)** Fever and pain in more than one joint can be due to • Chikungunya • Rheumatic fever • Rheumatoid arthritis	Septic Arthritis or Osteomyelitis It is an emergency, should be referred to the the nearest PHC Polyarthritis If there is no swelling or raised temperature or restriction of movements, manage acute cases symptomatically but if these signs are there, tests will be needed, so best to refer to the nearest PHC
Skin	Pus filled space/cavity, common locations are underarm, breasts in female (especially breastfeeding) Thickened, well defined indurated margins, rapid progression, and intense pain Very fast progression, high fever, and severe pain or even delirium with cellulitis with a clear area in between, involves lower limbs, scrotum, dishwater like watery pus, crepitus, and loss of sensation in the skin	**Abscess** **Cellulitis** is an area of redness and increased temperature but no pus can be seen with indistinct borders, h/o trauma in many cases, common in limbs **Necrotizing Fasciitis**	An abscess needs incision and drainage and oral/IV antibiotics. Consult MO PHC and refer if required. Cellulitis and Necrotizing fasciitis require urgent referral
Vascular	Swollen, red, painful calf swelling Pain on dorsiflexion Look for H/o clotting disorders, recent bedridden status, etc.	**Deep Vein Thrombosis**	**Refer to the section on surgical illnesses**

System	Localizing symptoms	Probable cause	Treatment/Management
Ear	Very painful ear with swelling, redness, and discharge on examination, • Pain on movement of the tragus (Tragus sign+ve), • Wet blotting paper appearance in the external ear	**Otitis externa**	• Paracetamol or ibuprofen for pain • Apply localized heat (such as a warm cloth) • BoroSpirit ear drops • Ciproflox ear drops • If cellulitis or disease extends outside the ear canal, or there are systemic signs of infection, start oral flucloxacillin/ ampicillin (after 30 minutes of food)and refer to exclude malignant otitis externa
Ear	Bloody or thick ear discharge, Sudden onset severe ear pain	**Acute Otitis Media**	Amoxicillin for 7 days if age > 2 years, otherwise for 10 days BoroSpirit ear drops Paracetamol or ibuprofen for pain **Refer to the module on ENT care**
	• H/o chronic ear discharge (off and on) • Fever with headache and earache • Mastoid tenderness	**Mastoiditis (a** complication of Chronic Otitis Media)	
	• H/O fever and URI in past few days, • F/b onset of dull pain in the ear, often on both sides, maybe more on one side than other • Stuffiness in ear	**Eustachian Catarrh**	
Oral	Check oral cavity for dental abscess, caries, swelling, etc.	**Referred ear pain from teeth**	• Amoxicillin for 5 days • Paracetamol or ibuprofen for pain • Mouth wash **Refer to the module on Oral health care**

System	Localizing symptoms	Probable cause	Treatment/Management
Non-localising	No localizing symptoms and signs, the patient may be having headache, body ache, GI signs, In these cases, testing for Malaria, Dengue is needed, if not done already by day 3 If Malaria and Dengue are negative Look for: • Jaundice • Skin rash • Lymph node enlargement • Liver and spleen enlargement	**Malaria, dengue, leptospirosis, Rickettsia fever, HIV/AIDS**	Dengue- Treat as per protocol, check Communicable Disease module Malaria- Treat as per protocol, check Communicable Disease module If both tests negative Empirically give Ampicillin and Doxycycline for 7 days If no response, refer to the nearest PHC for further investigation and management
	Drug-Induced Fever	Some medicines such as antibiotics, narcotics, barbiturates, and antihistamines can cause "drug fevers" due to adverse reactions, withdrawal, or by the drug's design	Give paracetamol Refer back to the treating doctor for a change in treatment if possible

Annexure 2: Essential Medicine List at Health and Wellness Centre- Sub Health Centre level

S.No	Medicine Name	Remarks	Caution(if any)
	Anesthetics Agent		
1	Oxygen gas for inhalation		
2	Lignocaine Topical forms 5%		Plain Lignocaine Injection can be kept at SC if enough caseload is there
Analgesics, antipyretics, non-steroidal anti-inflammatory medicines, medicines used to treat gout and disease modifying agents used in rheumatoid disorders			
3	Asprin (Acetylsalicylic acid) Tablet 75 mg		Not to be used in suspected dengue patients and other clinical conditions without prescription
4	Diclofenac Tablet 50 mg Diclofenac Injection 25 mg/ml		
5	Ibuprofen Tablet 200 mg		Not to be used in suspected dengue patients and other clinical conditions without prescription
6	Paracetamol tablet 250 mg, Paracetamol Syrup 125 mg/5ml Paracetamol Syrup 250 mg/5ml		
	Anti-allergics and medicines used in anaphylaxis		
7	Levocetirizine 5mg Tablet Levocetirizine Oral Liquid		
8	Hydrocortisone Succinate Injection 100 mg		
9	Pheniramine Injection 22.75 mg/ml		
10	Adrenaline Injection 1mg/ml		Should be part of all emergency drugs
	Anti-dotes and other substances used in poisoning		
11	Atropine Injection 1 mg/ml		Ampoules should be made available
12	Activated Charcoal		

S.No	Medicine Name	Remarks	Caution(if any)
	Anti-convulsants/ Anti-epileptics		
13	Magnesium Sulfate Injection (50% solution), 2ml ampoule		
14	Diazepam Tablet 5mg Diazepam Tablet 10mg Diazepam rectal suppository	**Schedule H1** (Separate H1 Register shall be maintained- Name of drug, patient, prescriber and dispensed quantity shall be recorded).	**Controlled medicine.**
15	Midazolam Nasal Spray	**Schedule H1** (Separate H1 Register shall be maintained- Name of drug, patient, prescriber and dispensed quantity shall be recorded).	**For emergency purpose**
16	Phenobarbitone Tablet 30 mg Phenobarbitone Tablet 60 mg Phenobarbitone Oral liquid 20 mg/5 ml		
17	Phenytoin Tablet 50 mg Phenytoin Tablet 300 mg		
18	Sodium valproate Tablet 200 mg Sodium valproate Tablet 500 mg Sodium valproate Syrup each 5ml contains 200mg		
	Intestinal Anthelmintics		
19	Albendazole Tablet 400 mg Albendazole Oral liquid 200 mg/5 ml		
	Anti-filarial		
20	Diethylcarbamazine Tablet 100 mg Diethylcarbamazine Oral liquid 120 mg/5 ml		
	Anti-bacterial		
21	Amoxicillin Capsule 250 mg, Amoxicillin Capsule 500 mg Amoxicillin Oral liquid 250 mg/5ml Amoxicillin Dispersible Tablet 250mg		

S.No	Medicine Name	Remarks	Caution(if any)
22	Gentamicin Injection 10 mg/ml Gentamicin Injection 80 mg/ml		
23	Tab Co-trimoxazole [Sulphamethoxazol 80 mg +Trimethoprim 400 mg] Tab. 20mg trimethoprim + 100mg sulphamethoxazole Co-trimoxazole Oral Liquid [Sulphamethoxazol e 200 mg + Trimethoprim 40 mg/5ml]		
24	Doxycycline Capsule 100 mg		
25	Metronidazole Tablet 200 mg Metronidazole Tablet 400 mg		
26	Norfloxacin tab/ oral Liquid		
Anti-leprosy medicines			
27	As per Program Guidelines (Adults and Pediatrics)		
Anti-tuberculosis medicines			
28	As per Program Guidelines (Adults and Pediatrics)		
Anti-fungal medicines			
29	Clotrimazole Ointment Clotrimazole Cream 1% Clotrimazole Vaginal Tablet Clotrimazole Drops 1% Clotrimazole Oral Solution		
30	Miconazole Ointment		
31	Fluconazole 150mg Tablet		
Anti-malarial medicines			
32	As Per Program Guidelines (Adults and Pediatrics)		
Medicines used in Palliative care			
33	Lactulose Oral liquid 10 g/15 ml		

S.No	Medicine Name	Remarks	Caution(if any)
34	Povidone Iodine Lotion and Ointment		
	Anti-anaemic medicines		
35	Ferrous salt 100 mg + Folic acid 500 mcg Tablet Ferrous salt 20 mg + Folic acid 100 mcg Table Ferrous salt 60 mg + Folic acid 500 mcg Table Ferrous salt 45 mg + Folic acid 100 mcg Table Ferrous sulphate + Folic acid Syrup		
36	Folic acid Tablet 5 mg Folic acid Tablet 400 mcg		
37	Vitamin K Injection 1 mg/ml		
	Cardiovascular medicines (Medicines used in angina)		
38	Isosorbide-5- mononitrate Tablet 5 mg		
39	Atenolol Tablet 50mg		
40	Metoprolol Tablet 25 mg Metoprolol SR Tablet 25 mg		
41	Isosorbide dinitrate Tablet 5mg (Sublingual)		
	Anti-hypertensive medicines		
42	Amlodipine Tablet 2.5 mg Amlodipine Tablet 5 mg		
43	Enalapril Tablet 5 mg		
44	Telmisartan Tablet 40 mg		
45	Hydrochlorothiazide Tablet 12.5 mg Hydrochlorothiazide Tablet 25 mg		
	Hypolipidemic medicines		
46	Atorvastatin Tablet 10 mg		
	Medicines used in Dementia		
47	Alprazolam Tablet 0.25mg Alprazolam Tablet 0.5mg		

S.No	Medicine Name	Remarks	Caution(if any)
Dermatological medicines (Topical)			
48	Silver sulphadiazine Cream 1%		
49	Betamethasone Cream 0.05%		
50	Calamine Lotion		
51	Benzyl benzoate ointment/lotion		
52	Mupirocin (anti bacterial cream)		
53	Potassium Permanganate 0.1%		
54	Zinc Oxide Cream 10%		
Disinfectants and antiseptics			
55	Ethyl alcohol (Denatured) Solution 70%		
56	Hydrogen peroxide Solution 6%		
57	Methylrosanilinium chloride (Gentian Violet)		
58	Bleaching powder Containing not less than 30% w/w of available chlorine (as per I.P)		
59	Gama Benzene Hexachloride		
60	Framycetin sulphate (Ointment)		
Ear, nose and throat medicines			
61	Ciprofloxacin Drops 0.3 % Ciprofloxacin Tablet 250 mg Ciprofloxacin Tablet 500 mg		
62	Boro-Spirit ear drop		
63	Ear wax solvent drops (combination of Benzocaine, Chlorbutol, Paradichlorobenzene and Turpentine Oil)		
Gastrointestinal medicines			
64	Ranitidine Tablet 150 mg Ranitidine Injection		
65	Omeprazole capsule 20 mg		

S.No	Medicine Name	Remarks	Caution(if any)
66	Ondansetron Tablet 4 mg Ondansetron Oral liquid 2 mg/5 ml Ondansetron Injection 2 mg/ml		
67	Ispaghula Granules/ Husk/ Powder	**Herbal Medicine**	
68	Oral rehydration salts (ORS)		
69	Zinc sulphate Dispersible Tablet 20 mg Zinc Sulphate Syrup		
70	Dicyclomine Tablet 10 mg Dicyclomine Injection		
70	Dicyclomine Tablet 10 mg Dicyclomine Injection		
71	Dioctyl sulfosuccinate sodium		
72	Magnesium Hydroxide liquid		
73	Senna Powder	**Herbal Medicine**	
74	Domperidone Tablet Domperidone Syrup		
Contraceptives			
75	Ethinylestradiol (A) + Levonorgestrel Tablet 0.03 mg (A) + 0.15 mg (B)		
76	Copper bearing intra-uterine device IUCD 380 A & IUCD 375		
77	Male Condom		
78	Ormeloxifene Tablet 30mg		
79	Emergency contraceptive Pill Levonorgestrel 1.5 mg		
80	Medroxyprogesterone Acetate Injection 150mg		
81	FP Commodities: PTK		
Medicines used in Diabetes Mellitus			

S.No	Medicine Name	Remarks	Caution(if any)
82	Glimepiride Tablet 2 mg		
83	Metformin Tablet 500 mg Metformin SR Tablet 500 mg		
84	Glibenclamide Tablet 2.5 mg Glibenclamide Tablet 5 mg		
Thyroid and Anti-thyroid medicines			
85	Levothyroxine Tablet 25 mcg Levothyroxine Tablet 50 mcg Levothyroxine Tablet 100 mcg		
86	Levothyroxine Tablet 25 mcg Levothyroxine Tablet 50 mcg Levothyroxine Tablet 100 mcg		
Vaccines			
87	As per Current National Programme Guidelines		
88	Rabies vaccine		
Oxytocics & Abortificent Medicine			
89	Misoprostol Tablet 200 mcg		**Should be use with caution**
Medicines acting on the respiratory tract			
90	Budesonide Respirator solution for use in nebulizer 0.5 mg/ml		**Nebulizer Essential**
91	Salbutamol Tablet 2 mg Salbutamol Oral liquid 2 mg/5 ml Salbutamol Respirator solution for use in nebulizer 5mg/ml		**Nebulizer Essential**
92	Normal Saline Drops		
93	Dextromethorphan oral Syrup		

Annexure 3: References :

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List of Abbreviations:

ABC	Airway Breathing Circulation
ACE	Angiotensin Converting Enzyme
AES	Acute Encephalitis Syndrome
AFB	Acid Fast Bacilli
AIDS	Acquired Immunodeficiency Syndrome
AVPU	"Alert", "Voice", "Pain", "Unresponsive"
BA	Bronchial Asthma
BD	Bis-in-die (Twice-a-day)
BP	Blood Pressure
BPH	Benign Prostatic Hyperplasia
CBNAAT	Cartridge – Based Nucleic Acid Amplification Test
CHC	Community Health Centre
CHO	Community Health Officer
COPD	Chronic Obstructive Pulmonary Disease
CPM	Chlorpheniramine
CT	Computed Tomography
CXR	Chest X-Ray
DH	District Hospital
DPT	Diphtheria-pertussis-tetanus
DRE	Digital Rectal Examination
ENT	Ear Nose Throat
GERD	Gastro-oesophageal Reflux Disease
GI	Gastro-intestinal
G6PD	Glucose-6-Phosphate Dehydrogenase
Hb	Haemoglobin
HG	Hyperemesis Gravidarum
HIV	Human Immunodeficiency Virus
H/O	History of
HPV	Human Papilloma Virus

HSV	Herpes Simplex Virus
HWC	Health and Wellness Centre
ICTC	Integrated Counselling and Testing Centre
IFA	Iron Folic Acid
IMNCI	Integrated Management of Neonatal and Childhood Illness
ISBAR	Identify, Situation, Background, Assessment and Recommendation
IM	Intramuscular
IP	Intraperitoneal
IV	Intra veinous
IUCD	Intrauterine Contraceptive Devices
JE	Japanese Encephalitis
LGV	Lymphogranuloma Venereum
LPA	Lipoprotein (a)
MO	Medical Officer
MTB	Mycobacterium Tuberculosis
NSAID	Non-Steroidal Anti-inflammatory Drugs
NS	Normal Saline
NTEP	National Tuberculosis Elimination Program
NVP	Nausea and Vomiting of Pregnancy
O/E	On examination
OPD	Out Patient Department
ORS	Oral Rehydration Solution

PAD	Peripheral Artery Disease
PCM	Paracetamol
PHC	Primary Health Centre
PLHIV	People Living with HIV
PMDT	Programmatic Management of Drug-Resistant TB
PTK	Phototherapeutic Keratectomy
RBC	Red Blood Cell
RBS	Random Blood Sugar
RDT	Rapid Diagnostic Tests
Rif	Rifampicin
RL	Ringer's Lactate
RR	Respiration Rate
RTI	Reproductive Tract Infection
SHC-HWC	Sub Health Centre – Health and Wellness Centre
SpO_2	Saturation of Peripheral Oxygen
STI	Sexually Transmitted Disease
Tab	Tablet
TB	Tuberculosis
TDS	Ter Die Sumendus (thrice a day)
USG	Ultrasonography
UTI	Urinary Tract Infection
VHND	Village Health and Nutrition Day
WHO	World Health Organization