COMMON HUMAN DISEASES

INTRODUCTION

- The condition of being sound in body, mind or spirit, especially

freedom from physical disease or pain-Health

- Ancient days- considered as a state of body & mind with balance of ‘humors- asserted by Greeks & Indian Ayurveda system

- It was believed- person with ‘blackbile’ belong to hot personality & would have fever

Humors- four distinct bodily fluids; excess or deficiency of bodily fluids in individual person directly influences temperament & health

. Four humors- Black bile, yellow bile, phlegm & blood

- Later discovery of Blood circulation by William Harvey & demonstration of normal body temperature in person with blackbile- disproved ‘good humor’ hypothesis

FACTORS AFFECTING HEALTH

1. Genetic disorders-deficiencies a child born with & deficiencies/

defect child inherit 2. Infections

3. Life style-food & water, rest & exercise, habits

● Health in generally means free from illness/ disease, injury or pain/

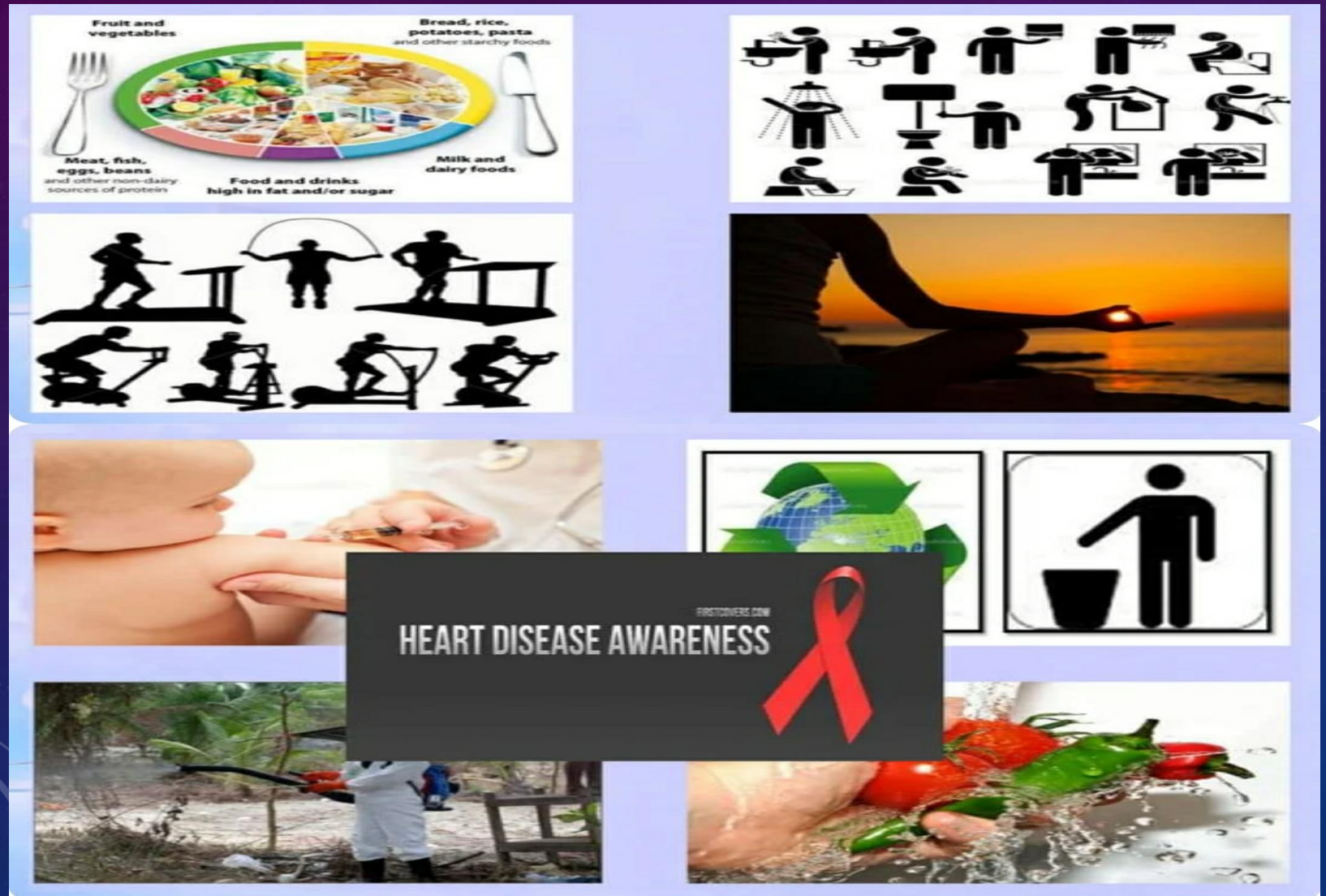
lack of physical fitness Health can be defined as a state of complete physical, mental and

social well-being Healthy people are efficient at work which increases productivity & brings economic prosperity

• Health- increases longevity of people & reduce infant & maternal

mortality

FACTORS FOR GOOD HEALTH



TYPES OF DISEASES

1. Congenital Disease- inborn disease & genetically inherited
2. II. Acquired Disease-after birth & non- inheritable
3. Congenital Disease:
4. 1. Disease due to gene mutation. Eg.- Haemophilia, Color blindness 2. Disease due to chromosomal mutation Eg.- Down's syndrome, Klinefelter's syndrome
5. Acquired Disease:
6. 1. Communicable or infectious diseases- air, water, food, physical contact or vectors (Bacteria, Virus, Protozoa, Helminth, Fungus etc.)
7. 2. Non-communicable or non- infectious diseases- Deficiency disease
8. (Diabetes), Degenerative (Arthritis), Cancerous & Allergic diseases
9.
9. (Asthma)

COMMON DISEASES IN HUMANS

Any substance which cause a disease by its excess or deficiency or absence- Disease agents

• Organism belonging to bacteria, viruses, fungi, protozoans, helminths

Etc., which cause disease- Pathogens

Pathogen acts as parasite by living on/in host & cause harm i.e.

Disease

Mode of transmission/ epidemiology or entry into host- different means

● Once entered into host body-it multiply & interfere with normal vital

activities which results morphological & functional damage • Pathogens after it entry into the host-adapts itself based on the environment, Eg. Pathogen entering gut should survive at low pH to resist digestive enzymes

DISEASES

 # Typoid

 # Pnuemonia

 # Common cold

 # Malaria

 # Amoebiasis

 # Ascariasis

 # Filariasis

 # Ringworm

TYPOID

Causative agent: Salmonella typhi (Bacterium)

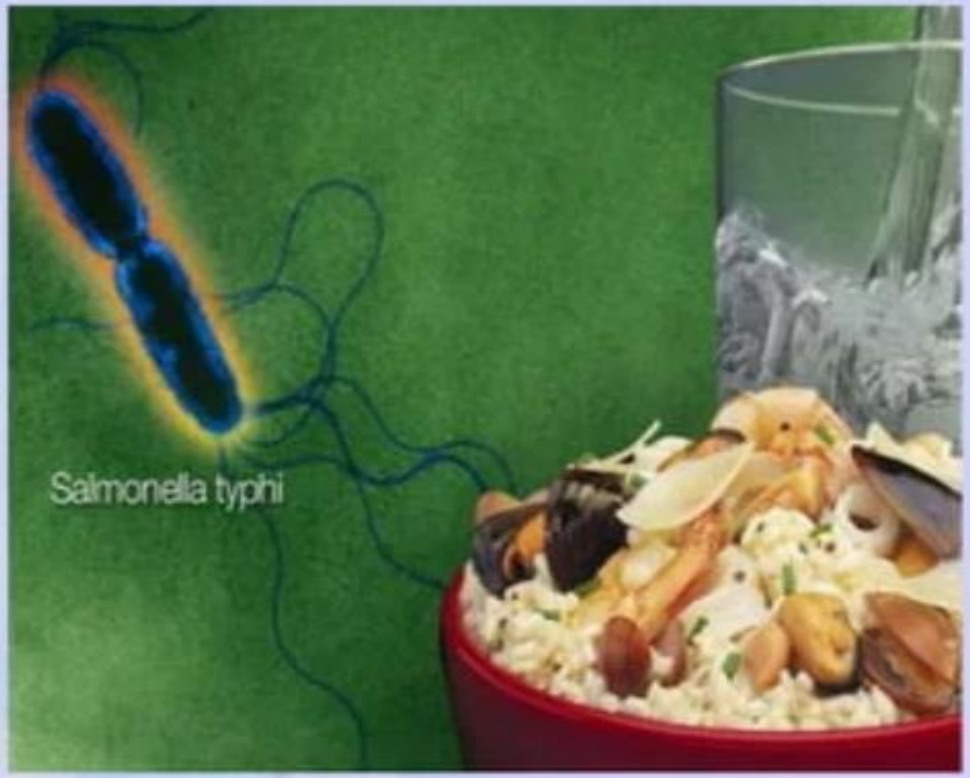
Epidemiology: Contaminated food & water, enters small intestine & migrate to other organs through blood

Symptoms:

Tyhoid fever-sustained high fever (39° to 40°C), Weakness, Stomach pain, Constipation, Headache, Loss of appetite, Severe cases-intestinal perforations & death

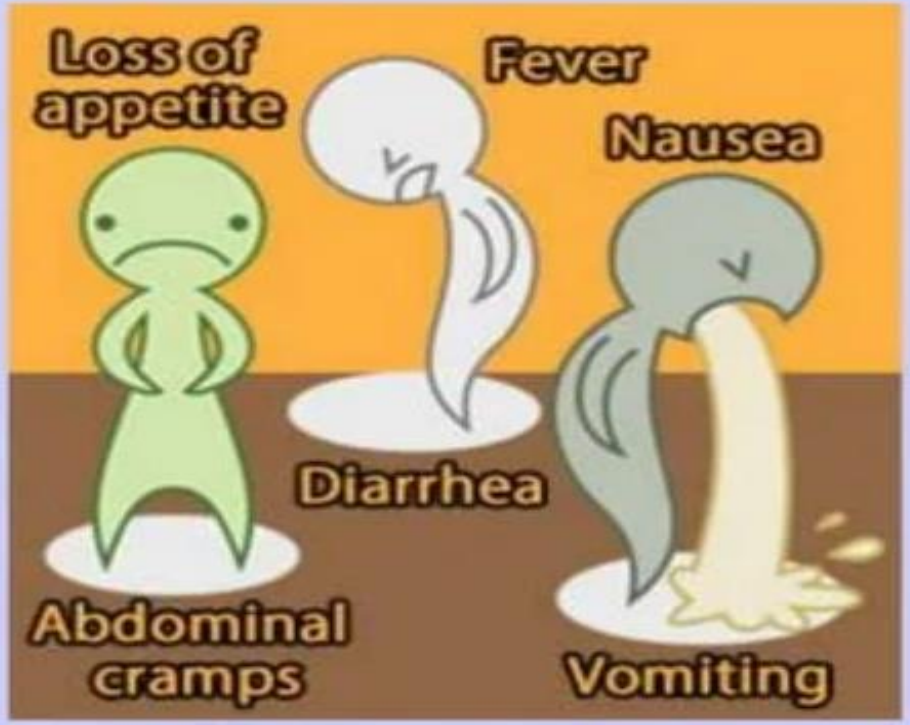
Confirmation of disease: Widal test

Mary Mallon nicknamed Typhoid Mary- typhoid carrier & was cook by profession, continued to spread typhoid for several years through food she prepared



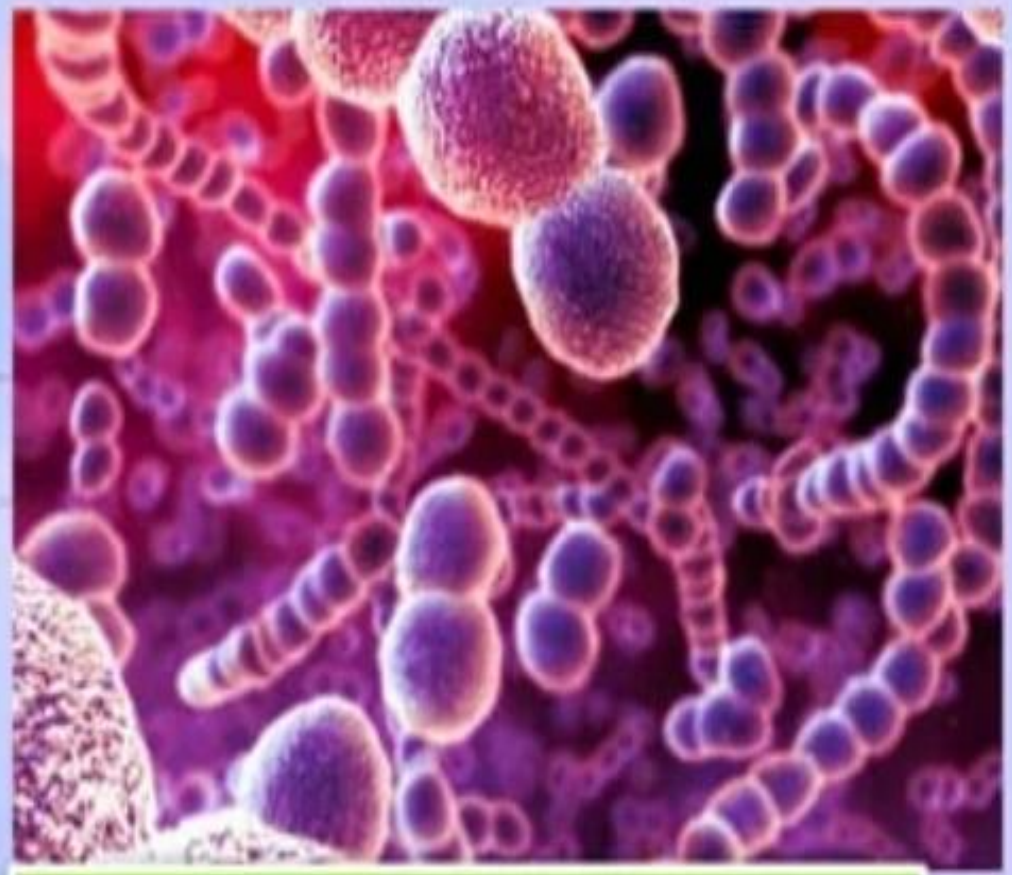
Mode of transmission

Common Symptoms

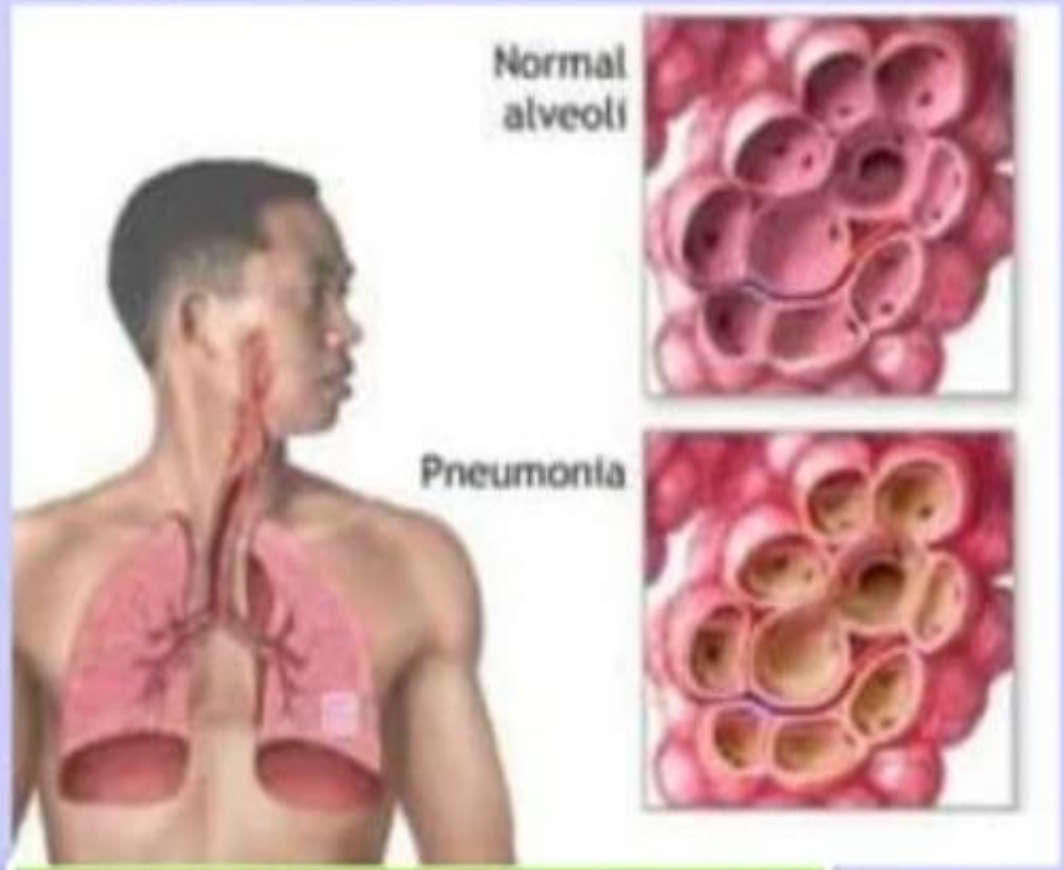


PNEUMONIA

- ⬤ Causative agent: Streptococcus pneumoniae & Haemophilus influnenzae
- (Bacteria)
- Epidemiology: inhalation of droplets/aerosols released by an infected
- person and by sharing glasses and utensils with an infected person Symptoms: Disease develop by causing infection in respiratory tract, Alveoli due to infection gets filled with fluid – severe problems in
- respiration, symptoms includes fever, chills, cough and headache, severe
- cases the lips and finger nails may turn gray to bluish in color



Streptococcus pneumoniae



Pneumonia

Chest Pain

Headache

Sputum Cough

Heat

Pallor Of The Skin

SYMPTOMS OF PNEUMONIA

COMMON COLD

- Causative agent: Rhino virus

Epidemiology:

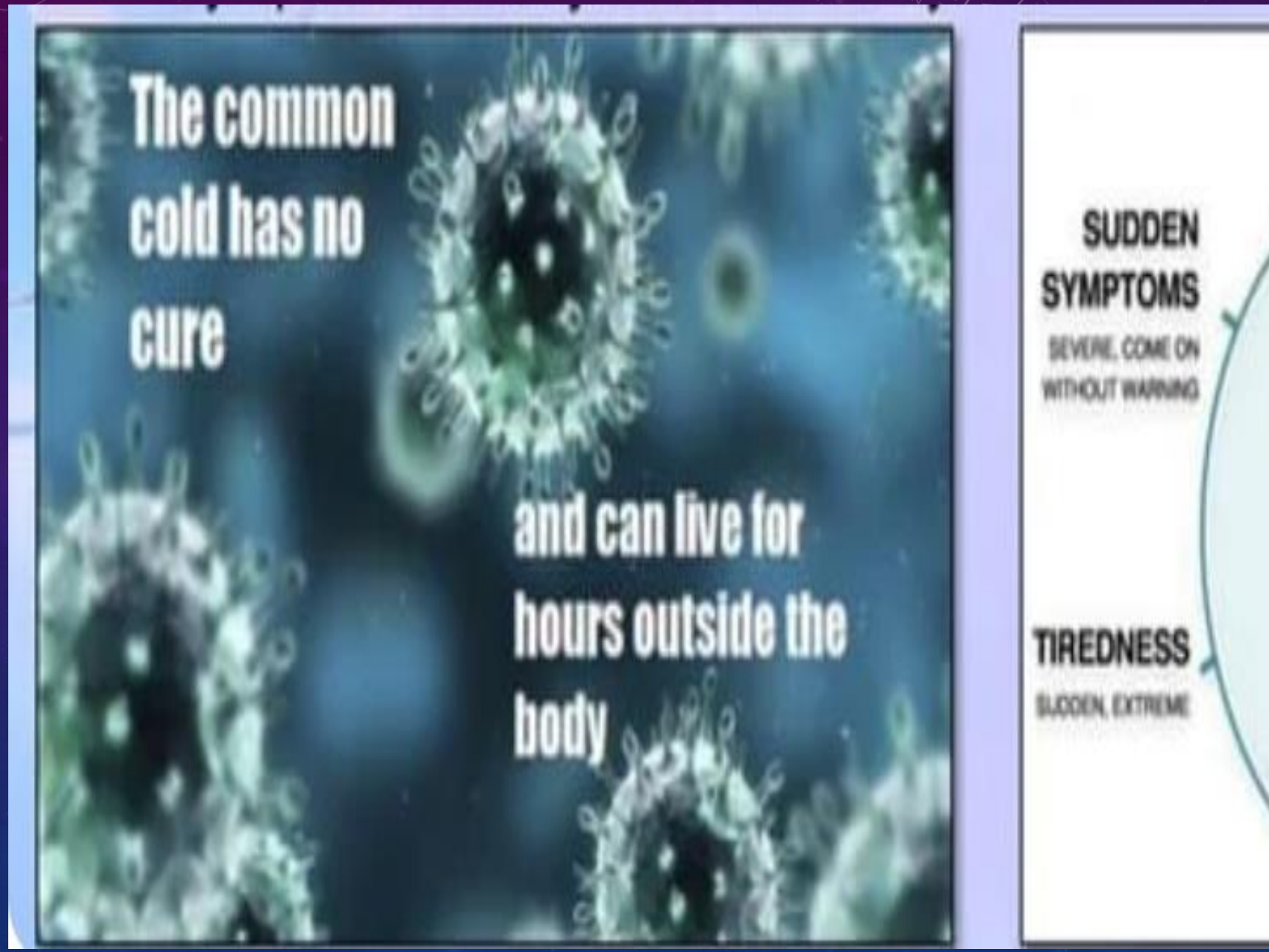
1. Inhalation of droplets of cough or sneeze of an infected person 2. Transmission through contaminated objects

Symptoms:

Infect the nose and respiratory passage but not the lungs

Common cold shows symptoms like nasal congestion and discharge, sore throat, hoarseness, cough, headache, tiredness, etc

Symptoms usually last for 3-7 days


The common cold has no cure
and can live for hours outside the body
SUDDEN SYMPTOMS
SEVERE, COME ON WITHOUT WARNING
TIREDNESS
SUDDEN, EXTREME

COMMON COLD – SYMPTOMS

Runny nose

Fever

Rhinitis

Cough

Fainting

Sore Throat

Headache

Weakness

MALARIA

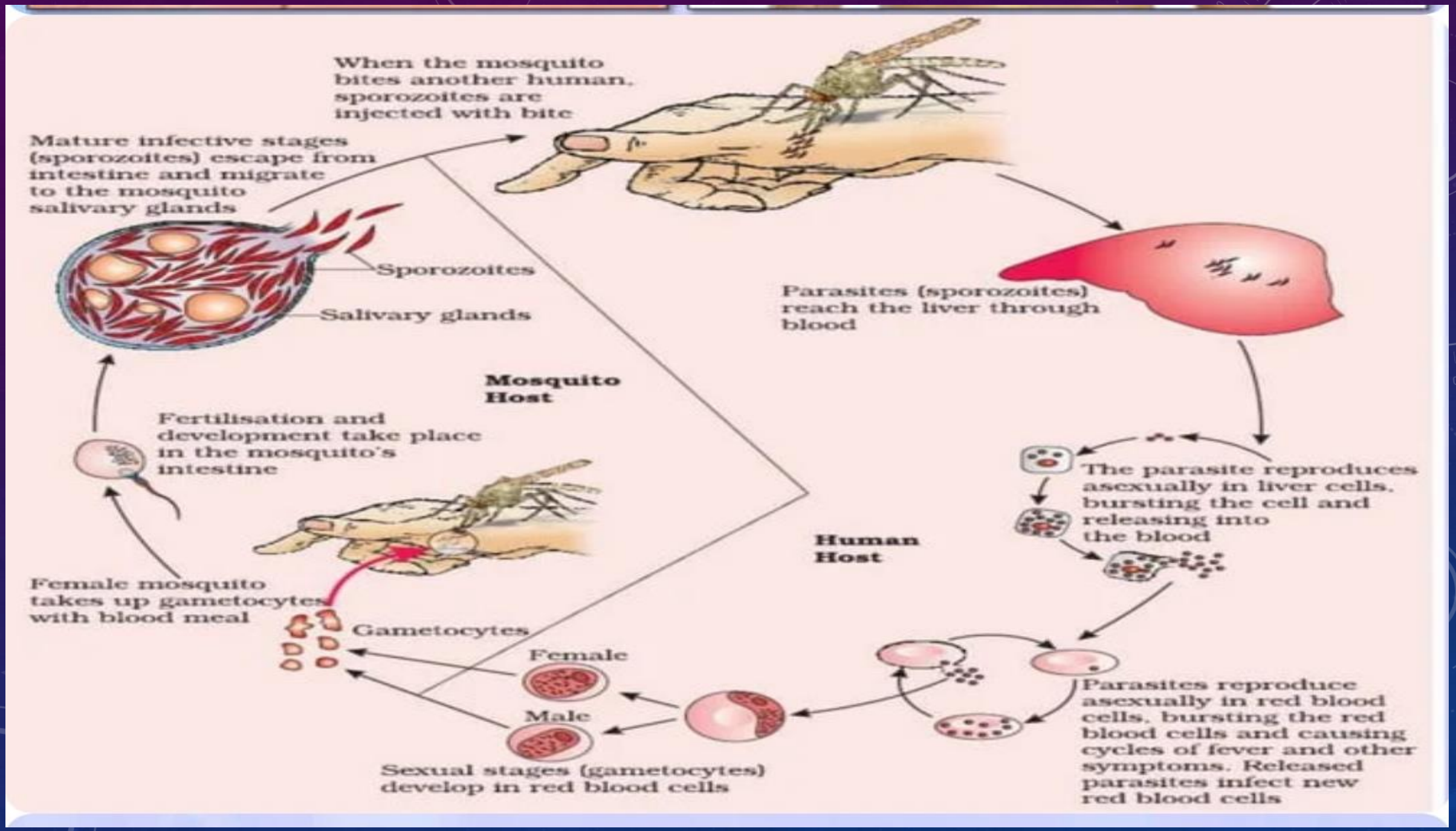
Causative agent: Plasmodium vivax, P. Malaria, P. Falciparum (Protozoa)

P. Falciparum- Malignant malaria which may be fatal Epidemiology: Bite of female Anopheles mosquito

Target organ: RBC & liver

Symptoms: High fever and chill, fever occurs on every alternate day, vomiting

ANOPHELES MOSQUITO


When the mosquito bites another human, sporozoites are injected with bite
Mature infective stages (sporozoites) escape from intestine and migrate to the mosquito salivary glands
Sporozoites
Salivary glands
Parasites (sporozoites) reach the liver through blood
Mosquito Host
Human Host
Fertilisation and development take place in the mosquito's intestine
The parasite reproduces asexually in liver cells, bursting the cell and releasing into the blood
Female mosquito takes up gametocytes with blood meal
Gametocytes
Female
Male
Parasites reproduce asexually in red blood cells, bursting the red blood cells and causing cycles of fever and other symptoms. Released parasites infect new red blood cells
Sexual stages (gametocytes) develop in red blood cells

SYMPTOMS OF MALARIA

Headache

Vomiting

Fever

Nausea

Dry Cough

AMOEBIASIS

Causative agent: Entamoeba histolytica (protozoan)

Epidemiology:

1. Transmission of parasite from faeces of infected person to food or food products through Houseflies (mechanical carrier)

2. Drinking water contaminated by the faecal matter are the main

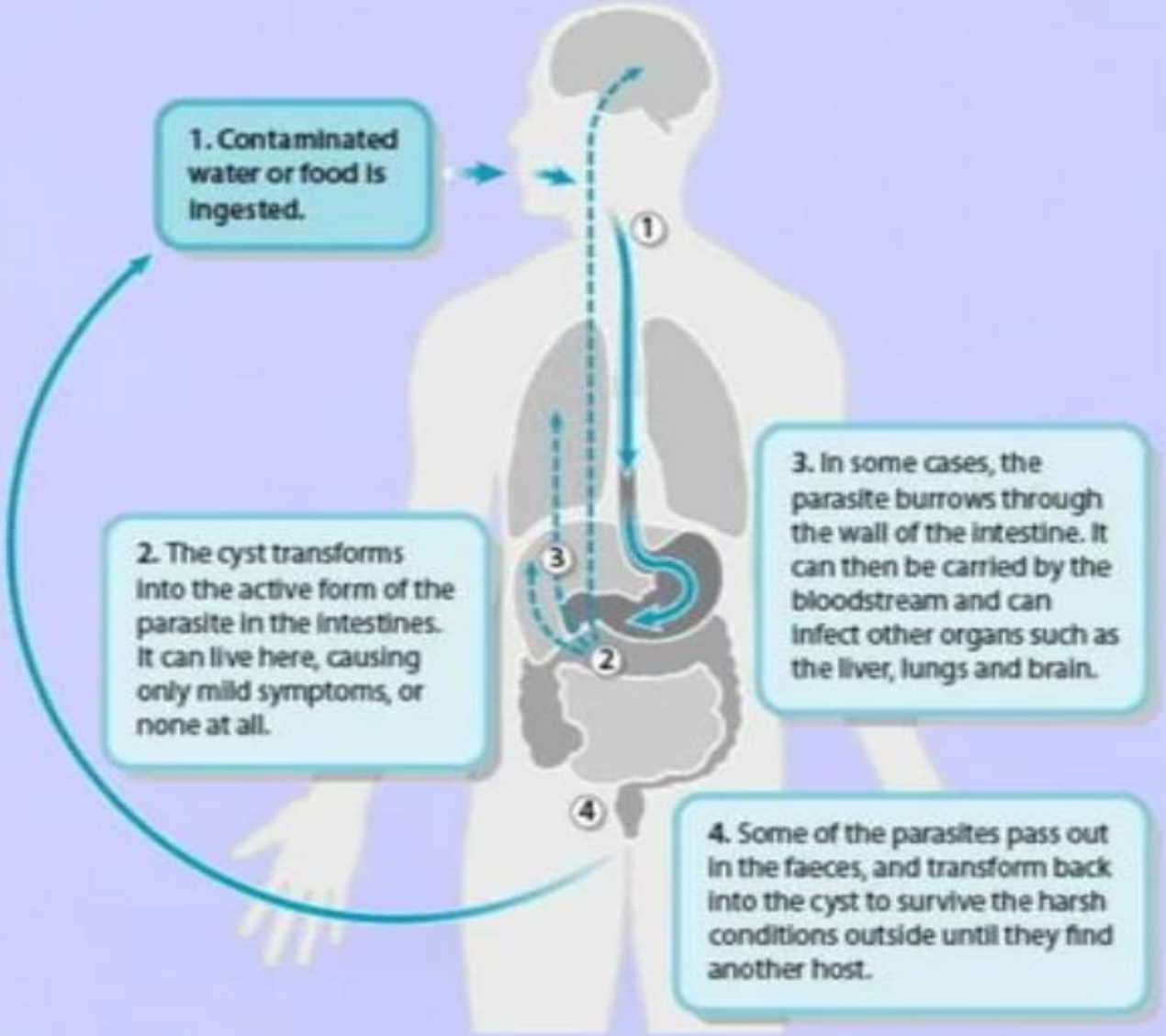
source of infection

Target Organ: Large intestine

. Symptoms:

Symptoms includes constipation, abdominal pain and cramps, stools

with excess mucous and blood clots.


1. Contaminated water or food is ingested.
2. The cyst transforms into the active form of the parasite in the intestines. It can live here, causing only mild symptoms, or none at all.
3. In some cases, the parasite burrows through the wall of the intestine. It can then be carried by the bloodstream and can infect other organs such as the liver, lungs and brain.
4. Some of the parasites pass out in the faeces, and transform back into the cyst to survive the harsh conditions outside until they find another host.

Symptoms of Amoebic Dysentery

Diarrhea.

High fever.

Nausea and vomiting.

Weight loss.

Upset stomach.

ASCARIASIS

Causative agent: Microsporum, Trichophyton & Epidermophyton-

(fungi)

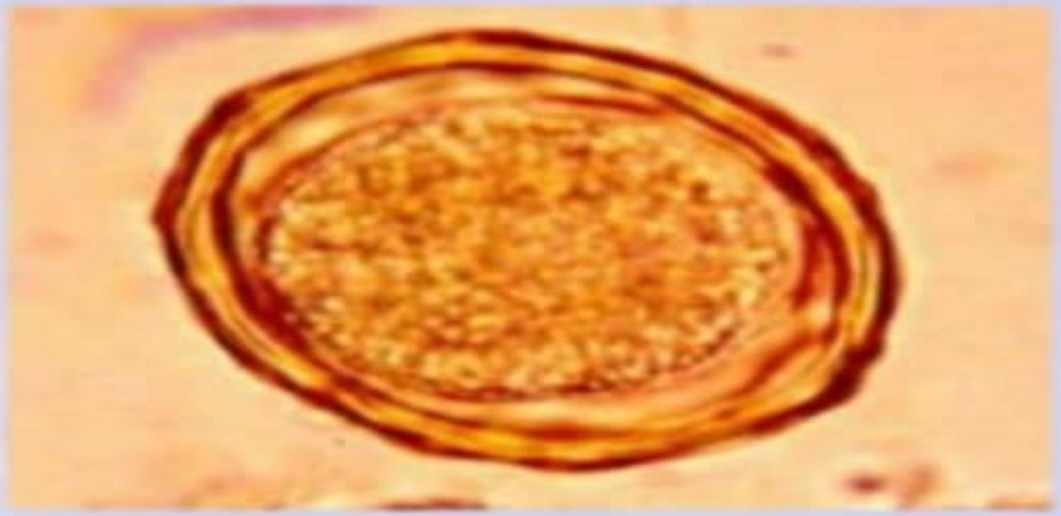
Epidemiology:

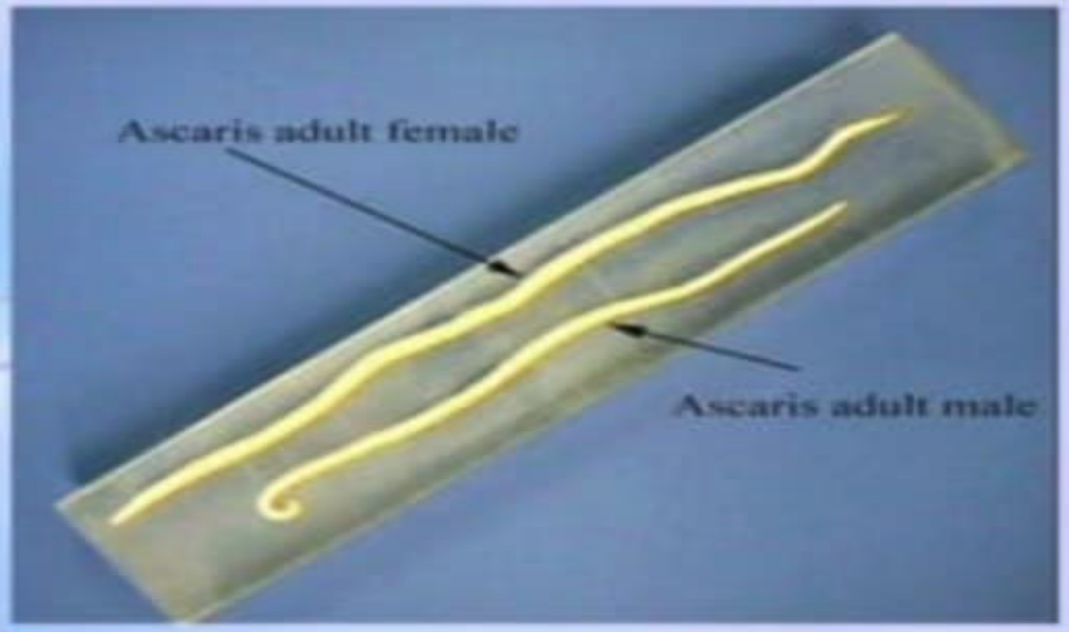
1. Acquired from the soil.
2. Using towel, clothes or even comb of infected individuals.
3. Heat & moisture enhances the growth of organism

Target organs: Skin, nails, folds of skin in groin & toes

Symptoms:

1. Appearance of dry, scaly lesions in skin nails and scalp.
2. Lesion accompanied with intense itching.




Ascaris adult female
Ascaris adult male

ASCARIS LUMBRICOIDES

Ascaris lumbricoides, commonly called the roundworm, is the commonest intestinal nematode to infect the human and affects a quarter of the world's population.

Symptoms:

General

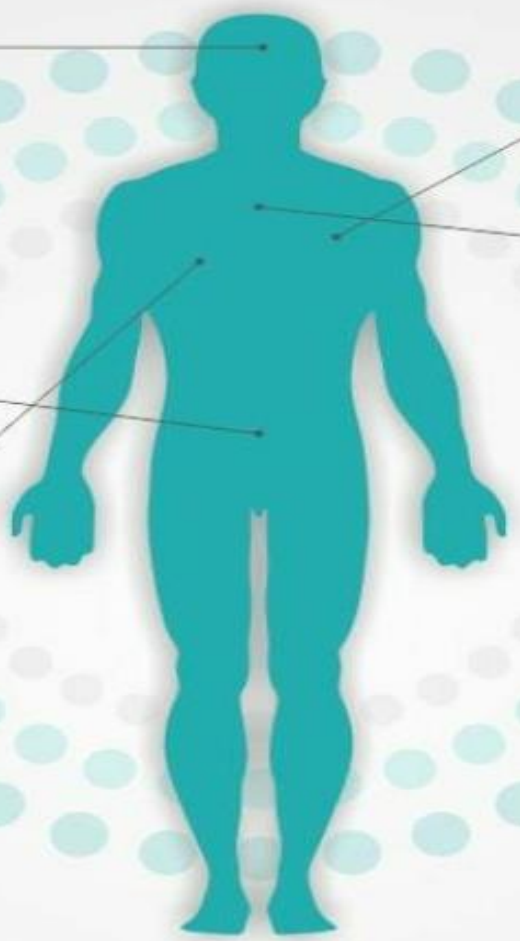
- Fever
- Pain
- Malnutrition

Abdomen

- Abdominal pain

Liver

- Obstructive jaundice



Heart

Chest pain •

Lungs

Dry cough •
Dyspnoea •

મન

FILARIASIS

Causative organism: Wuchereria bancrofti & W. Malayi

worms)- Helminths (Filarial

Epidemiology: Bite of female mosquito vectors- Culex

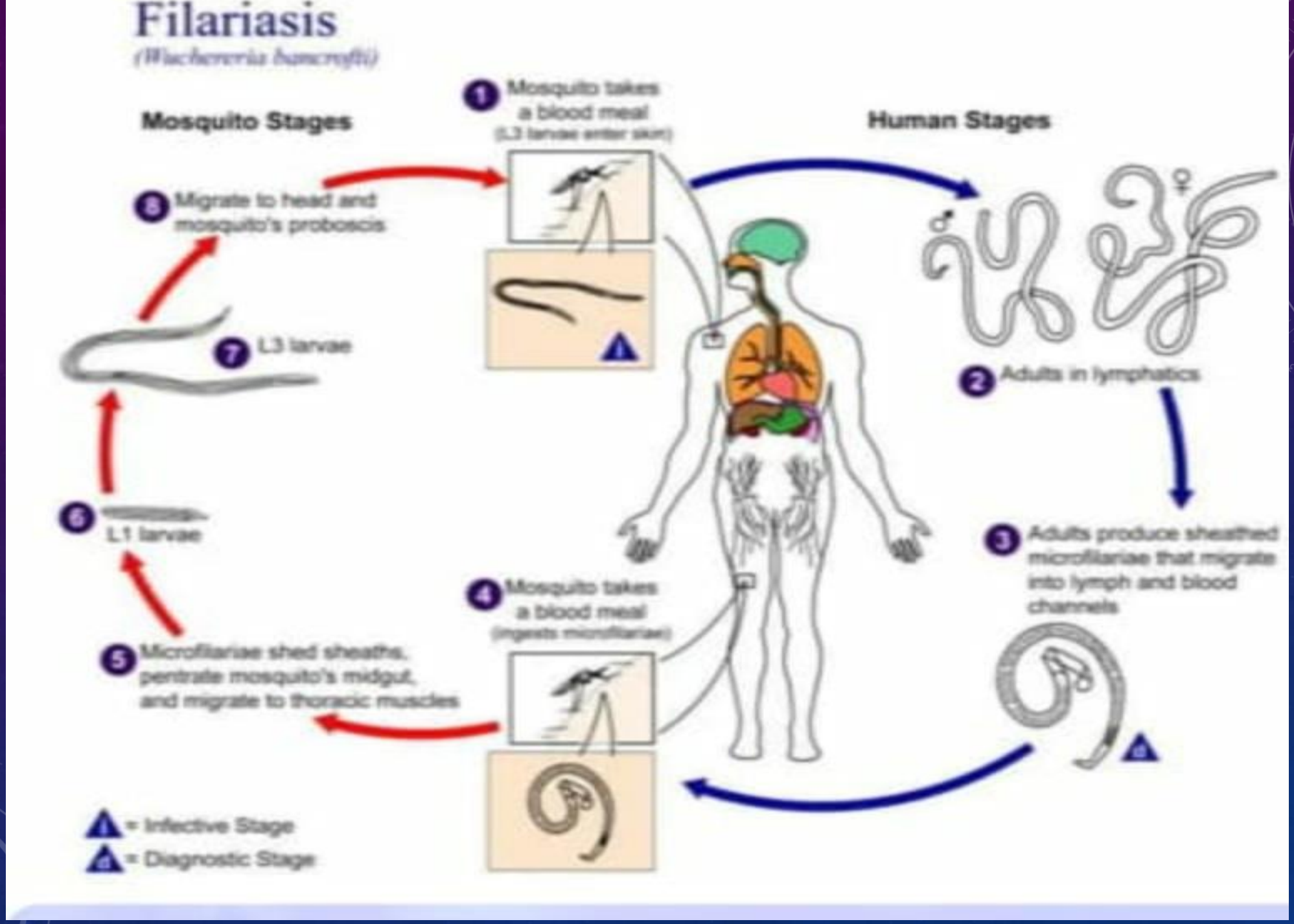
Target organ: Lymphatic vessels of lower limbs, genital organs

Symptoms:

1. Chronic inflammation of organs (many years)- lymphatic vessels

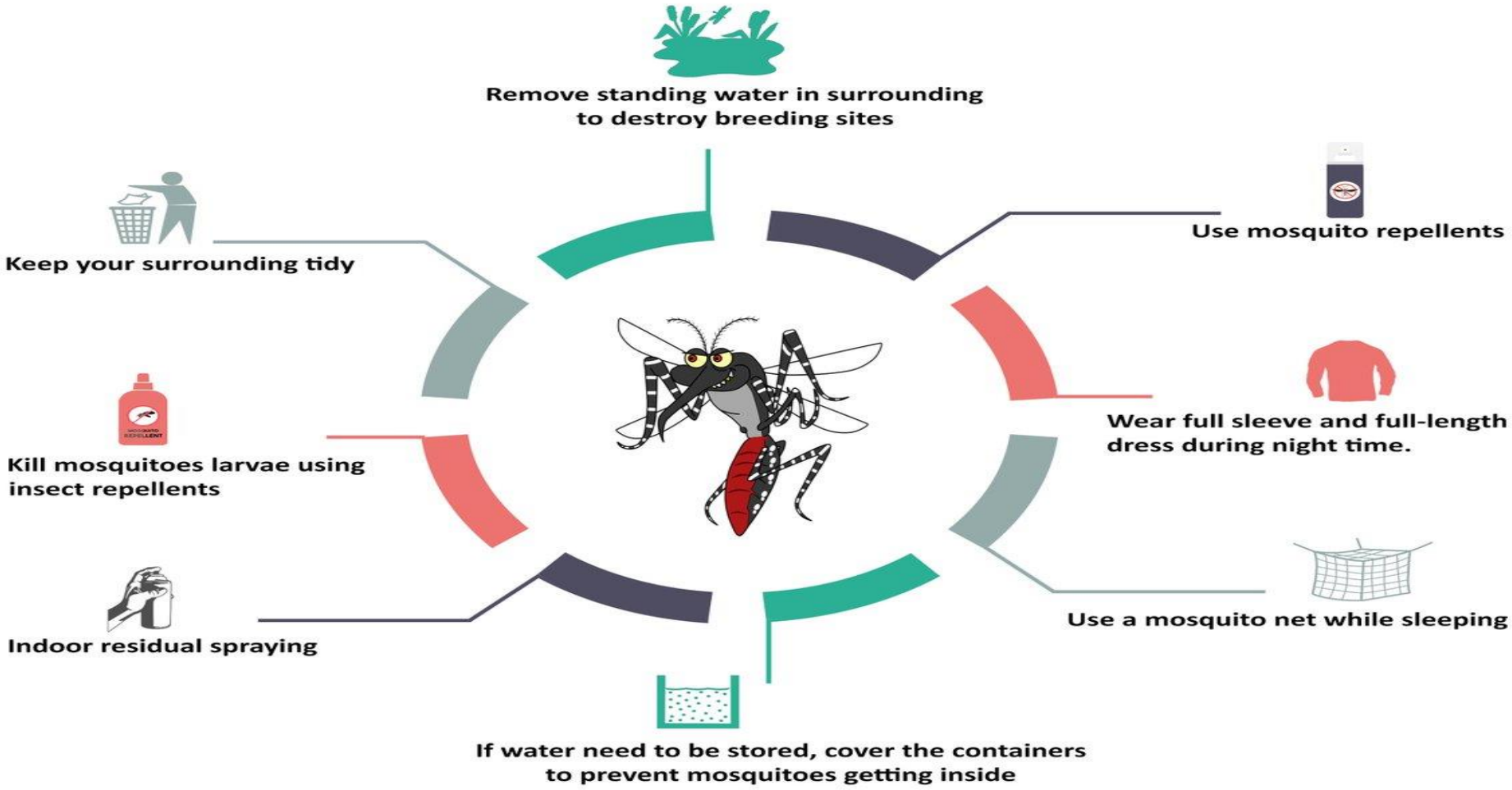
which result in appearance of elephant like leg- Elephantiasis 2. Deformation of genital organ

CULEX MOSQUITO


Filariasis
(Wuchereria bancrofti)
Mosquito Stages
Human Stages
1 Mosquito takes a blood meal
(L3 larvae enter skin)
2 Adults in lymphatics
3 Adults produce sheathed microfilariae that migrate into lymph and blood channels
4 Mosquito takes a blood meal
(ingests microfilariae)
5 Microfilariae shed sheaths, penetrate mosquito's midgut, and migrate to thoracic muscles
6 L1 larvae
7 L3 larvae
8 Migrate to head and mosquito's proboscis
= Infective Stage
= Diagnostic Stage

How to prevent Filariasis?

IAD
Institute of Applied Dermatology
Effective Care through Integrative Medicine



RING WORM

Causative agent: Microsporum, Trichophyton & Epidermophyton-(fungi)Epidemiology

1. 1.Acquired from the soil.
2. 2. Using towel, clothes or even comb of infected individuals.
- 3. Heat & moisture enhances the growth of organism

1. Target organs: Skin, nails, folds of skin in groin & toes
2. Symptoms:
3. 1. Appearance of dry, scaly lesions in skin nails and scalp.
4. 2. Lesion accompanied with intense itching.

MICROSPORUM


Caresathome
Care | Education | Diagnosis
Ringworm

PREVENTION AND CONTROLL OF DISEASE

Infectious diseases can be prevented through maintenance of

personal and public hygiene • Diseases can be grouped as:

1. Food & water borne diseases

2. Air borne diseases

3. Vector borne diseases

1.FOOD AND WATER BORNE DISEASE

- Proper personal hygiene include keeping the body clean;
- consumption of clean drinking water, food, vegetables, fruits, etc.
- • Proper public hygiene which includes proper disposal of waste and excreta; periodic cleaning and disinfection of water reservoirs, pools, cesspools and tanks and observing standard practices of hygiene in public catering.
- Eg.- typhoid, amoebiasis and ascariasis

2.AIR BORNE DISEASES

- Close contact with infected person & their belongings should be
- avoided ● Personal hygiene is also very important to prevent diseases
- Eg.- Pneumonia and Common cold

3.VECTOR BORNE DISEASE

- Controlling or eliminating the vectors and their breeding places.
- Avoiding stagnation of water in and around residential areas, regular
- cleaning of household coolers, use of mosquito nets
- Introducing fishes like Gambusia in ponds that feed on mosquito larvae, spraying of insecticides in ditches, drainage areas and swamps, etc.
- • Doors and windows-wire mesh to prevent the entry of mosquitoes.
- Aedes & Culex mosquitoes, Houseflies Malaria, Filariasis, Dengue and Chikungunya

- Diseases can be now prevented- vaccines and immunisation • Vaccines – eradicate smallpox, polio, diphtheria, pneumonia and
- tetanus
- ● Through Biotechnology we can make available newer and safer vaccines.
- Discovery of antibiotics and various other drugs has also enabled us to effectively treat infectious diseases


VACCINE


Thank you