

Communicable Disease

- **Diseases that are spread from one person to the other & is caused by an infectious agent that is transmitted from a source to host.**
- **Diseases that are “catching”**
- **Diseases that are caused by germs or pathogens.**

Examples of pathogens include: viruses, bacteria, p parasitic worms and fungi.

Causes of Communicable Diseases

- ◉ Pathogen: Organism that causes disease.
- ◉ Pathogens include: viruses, bacteria, fungi, protozoans and rickettsia
- ◉ Infection: Condition that occurs when pathogens enter the body, multiply, and damage body cells.

Modes of Transmission

- **Direct Contact:** Exposure to infected body fluids such as blood or saliva.
- **Vectors/Reservoirs:** Germs are spread by an animal or insect, usually through a bite.
- **Food and Water:** Food and water can become contaminated with germs and people can get sick when they eat or drink them.
- **Airborne:** Germs are spread through the air, for example when someone coughs or sneezes.
- **Indirect contact:** Pathogens remain on surfaces that were in contact with an infected person.

Strategies for Preventing Communicable Disease

- ◉ Washing Hands
- ◉ Handling Food Properly
- ◉ Eat a balanced diet
- ◉ Avoid sharing eating utensils
- ◉ knowing

Examples :

- ♣ Chicken pox
- ♣ Diphtheria
- ♣ Filariasis
- ♣ AIDS
- ♣ Poliomyelitis
- ♣ Malaria
- ♣ Measeles
- ♣ Tuberculosis
- ♣ Tetanus
- ♣ Rabies
- ♣ Sexually transmitted diseases

Chicken pox

- Chicken pox is a common disease caused by the varicella zoster virus (VZV) which is a member of the herpes virus family.
- Usually occurs during childhood (normally 5-9) , but you can get it at any time in your life.

Symptoms:

- small fever, body aches and loss of appetite.
- Within 1or 2 day, the rash appears, begins as red spots which then form blisters and spreads to the rest of the body.

• Modes of Transmission:

- Airborne disease. Sneeze, body fluid, contact, etc



Prevention

- There are no actual cures for it ,but you can get a vaccine shot to help prevent it.
- Baths with uncooked oatmeal, baking soda, or cornstarch can help relieve itching.
- Tylenol is used for fever or pain relief. (Aspirin should be avoided.)
- Antiviral drugs such as Acyclovir may be prescribed.
- You can put Calamine lotion on the pocks to help stop the itching.

Diphtheria

- It is caused by bacteria *Corynebacterium diphtheriae*.

Symptoms: Sore throat, Low fever, Swollen neck glands, Airway obstruction and breathing difficulty, Shock.

Modes of Transmission:

- Solely among humans, spread by droplets
- Secretions, direct contact, Poor nutrition
- Low vaccine coverage among infants & children.

Prevention

- Sanitary: Reduce carrier rate by use of vaccine.
- Immunological: A vaccine (DPT) prepared from an alkaline formaldehyde inactivated toxin (i.e. toxoid) is required. Passive immunization with antitoxin can be used for patients.
- Chemotherapeutic: Penicillin, erythromycin or gentamicin are drugs of choice.

Filariasis

Infection caused by 3 closely related Nematodes-

- "*Wuchereria bancrofti*"
- "*Brugia malayi*"
- "*Brugia timori*"

Symptoms: Filarial fever, Lymphangitis, Lymphadenitis, Elephantiasis of genitals/legs/arm, Filarial arthritis, Chyluria.

Mode of transmission: Transmitted by the bite of infected mosquito responsible for considerable sufferings.



Prevention

- Treating the infection by Cooling the leg, drying, exercise.
- Treatment and prevention of Lymphoedema.
- Drugs effective against filarial parasites-
 1. Diethyl Carbamazine citrate (DEC)
 2. Ivermectin
 3. Albendazole
 4. Coumarins compound

AIDS

- Acquired Immunodeficiency Syndrome"
- HIV (Human immunodeficiency virus) is the virus that causes AIDS
- Disease limits the body's ability to fight infection due to markedly reduced helper T cells.
- Patients have a very weak immune system (defense mechanism)

Symptoms: Fever, Headache, neuropathy, Sores, Rashes, Nausea, Vomitting.

Mode of Transmission: Sharing Needles, Unsterilized blades, Unprotected Intercourse, Mother to Baby.

Prevention

Some ways to protect urself-

- ♣ Monogamous Relationship.
- ♣ Protected Sex.
- ♣ Sterile needles.
- ♣ New shaving/cutting blades.

Anti-retroviral drugs are used-

- ♣ AZT (Zidovudine).
- ♣ Viramune (Nevirapine).
- ♣ Norvir (Ritonavir).

Poliomyelitis

Poliomyelitis is a highly infectious disease caused by three serotypes of poliovirus.

Symptoms: febrile illness, aseptic meningitis, paralytic disease, and death.

Modes of Transmission:

- Oral-oral infection:
 - direct droplet infection
- Faeco-oral infection:
 - Food-borne (ingestion)
 - Hand to mouth infection.

Prevention

General prevention:

- Health promotion through environmental sanitation.
- Health education (modes of spread, protective value of vaccination).

Active immunization:

- Salk vaccine (intramuscular polio trivalent killed vaccine).
- Sabin vaccine (oral polio trivalent live attenuated vaccine).

Malaria

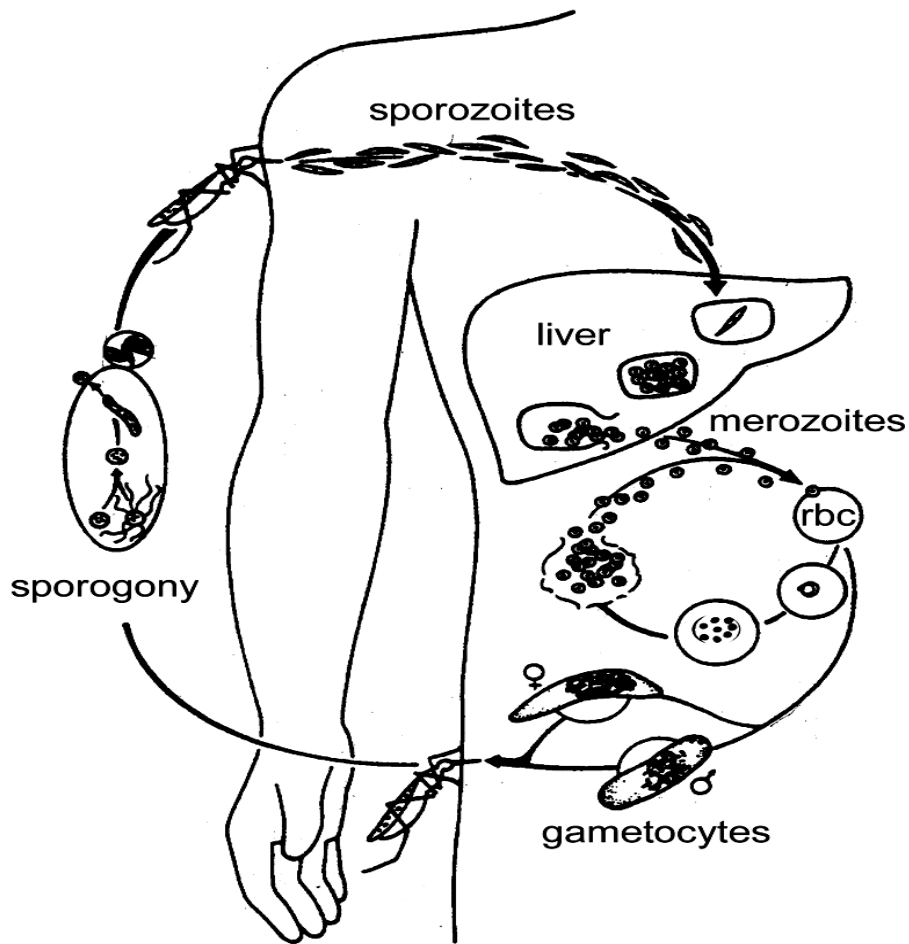
It is caused by four *Plasmodium* species-

- *P. falciparum*
- *P. vivax*
- *P. malariae*
- *P. ovale*

Symptoms: Chills, Fever, Internal fever, Body ache.

Mode of transmission: It is transmitted by female anopheles mosquito, sporozoites injected with saliva & enter circulation then infected person.

Life cycle of malaria parasite



- ♣ sporozoites injected during mosquito feeding.
- ♣ invade liver cells.
- ♣ exoerythrocytic schizogony.
- ♣ merozoites invade RBCs.
- ♣ gametocytes infective for mosquito.
- ♣ fusion of gametes in gut.
- ♣ sporozoites invade salivary glands.

Prevention

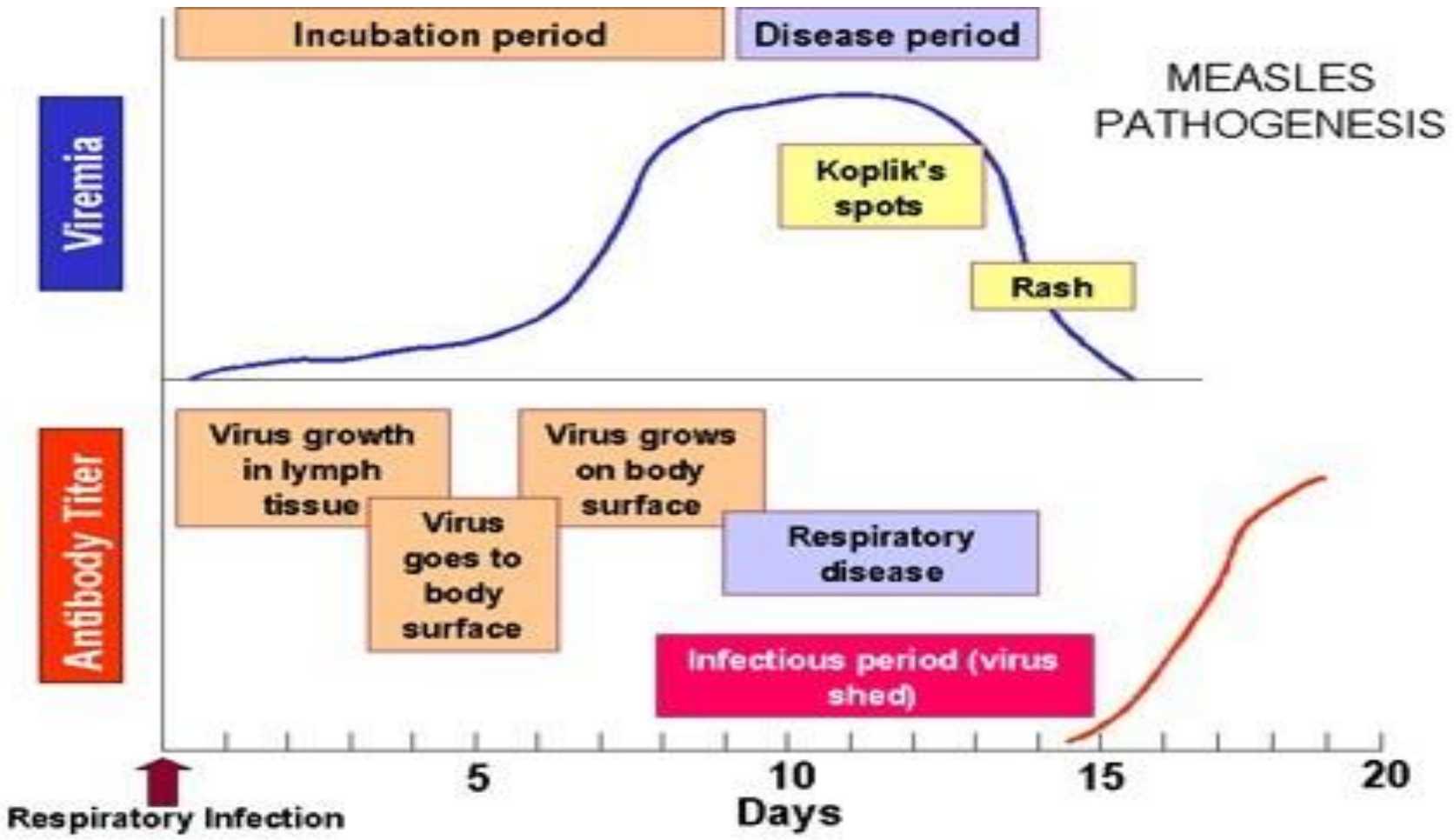
- Use a spray containing permethrin on clothing.
- Apply insect repellents regularly in cream, spray or gel form that contain diethyltoluamide (DEET).
- Use coils and mats impregnated with insecticide in closed rooms to repel the mosquitoes.
- Malaria prophylaxis are taken.
- Anti-malarial drugs are used such as chloroquine.

Measeles

- It is caused by agent- RNA virus (Paramyxovirus family, genus Morbillivirus)
- Symptoms: Diarrhea, Pneumonia, Convulsions, SSPE (sub acute sclerosing panencephalitis).
- Modes of transmission: Transmitted by Droplet infection 4 days before and 4 days after rash.



Measles



Prevention

- Live attenuated measles virus (Edmonston-zagreb strain)
Propagated on human diploid cell. (0.5 ml of vaccine)
- Measles vaccine has to be given at 9 months.
- If Measles vaccine is given a 3 months gap is advisable to give MMR vaccine.
- The vaccine should be reconstituted with the diluent supplied (Sterile water for injection) using a sterile Auto disabled syringe with needle.
- After reconstitution the vaccine should be used immediately.
- If the vaccine is not used immediately then it should be stored in the dark at 2° - 8°C for no longer than 8 hours.

Tuberculosis

- "Tuberculosis is defined as an infectious disease caused by a bacterium *Mycobacterium T.B.* ; that most commonly affects the lungs."
- Symptoms: Slight fever, night sweats, weight loss fatigue.
- Modes of transmission: tuberculosis is an airborne disease able to be passed from one person to another.

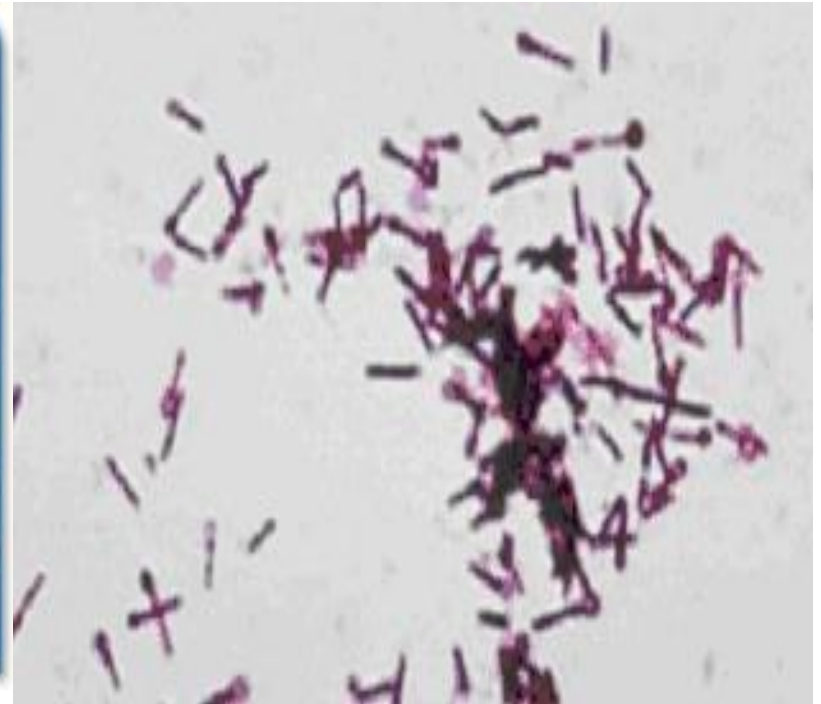
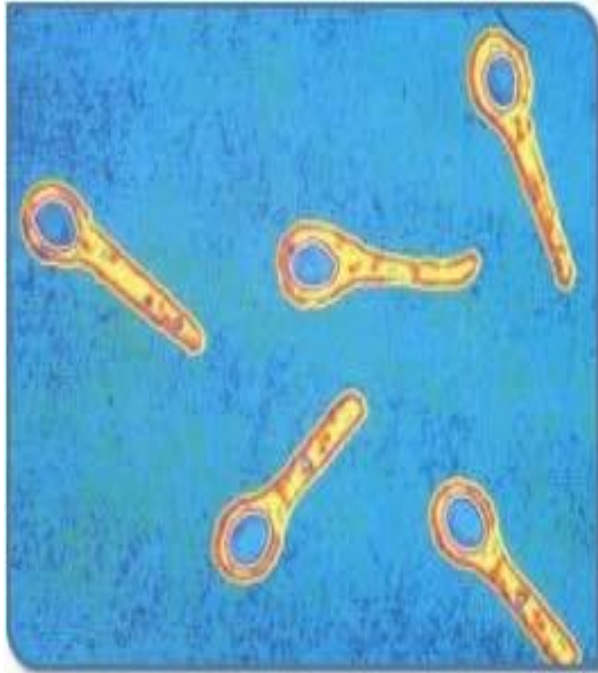


Prevention

- Your doctor may prescribe a medicine called *isoniazid* to prevent the tuberculosis infection from developing into the active disease and making you feel sick.
- If you contract TB of the abdominal or of the extra-pulmonary you may have the choice of a mainstay therapy that takes a course of 9-12 months in order to complete.
- Surgery is generally reserved for patients with obstruction of vital organs.

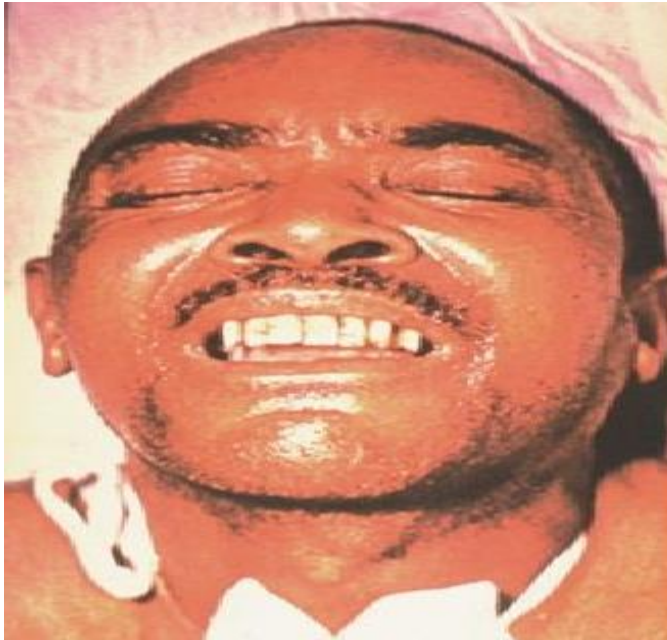
Tetanus

- A Neurological disease characterised by increased muscle tone & spasms Caused by CLOSTRIDIUM TETANI.
- It is found worldwide in soil, in inanimate environment, in animal faeces & occasionally human faeces.



Cont.

- Symptoms: muscle rigidity, dysphagia, rigidity, spasm, trismus, hyperpyrexia.
- Mode of transmission: Infection is acquired by contamination of wounds with tetanus spores.



Rabies

- Rabies is a viral disease that causes acute encephalitis in warm blooded animals, it can be transmitted to humans from other species.
- The rabies virus infects the CNS, cause disease in brain & death.
- Symptoms:

Partial paralysis, anxiety, insomnia, confusion, agitation, abnormal behavior, terror, and hallucinations, progressing to delirium.

- Modes of transmission: Contd.

Rabies may also spread through exposure to infected domestic animals, groundhogs, bears, raccoons and other wild carnivorans. Small rodents such as squirrels hamsters, guinea pigs, gerbils, chipmunks rats and mice.

Prevention

- Vaccinating dogs, cats, rabbits, and ferrets against rabies.
- Keeping pets under supervision.
- Not handling wild animals or strays.
- Contacting an animal control officer upon observing a wild animal or a stray, especially if the animal is acting strangely.
- If bitten by an animal, washing the wound with soap and water for 10 to 15 minutes and contacting a healthcare provider to determine if post-exposure prophylaxis is required.

Sexually transmitted disease

- STDs are diseases and infections which are capable of being spread from person to person through:
 - sexual intercourse
 - oral-genital contact or in non-sexual ways.
 - IV drug
- Some STD's are:
 - } Chlamydia.
 - } Gonorrhoea.
 - } Syphilis.
 - } Candidiasis - Yeast Fungus.

• Symptoms: Contd.

1. Sores.
2. Blood in urine.
3. Burning sensation when urinating.
4. Rashes.
5. Itching.
6. Warts.
7. Unusual discharge.

• Modes of transmission:

- } sexual intercourse
- } oral-genital contact or in non-sexual ways.
- } IV drug

Prevention

- Abstinence.
- Know your partner
- Limit your partners.
- Visit your doctor.
- Always look.
- Keep clean.