

Assignment no 2

- 1) Describe Malaria/Typhoid/dengue Hepatitis and polio. Also mention symptoms, causing Agents and treatment of these diseases.

Malaria: Malaria can be a life threatening diseases caused by a parasite that's carried by certain mosquitoes in warm climates.

The parasites that causes malaria attack your "red blood cells" typically causing a high fever, shivering chills and other symptoms that may develop life threatening complications.

Malaria is a major threat to human health worldwide and a leading cause of illness and death in many developing countries, especially in young childrens pregnant women are also more vulnerable to the disease.

Most cases of malaria occurs in Sub-Saharan Africa and South Asia



but the disease also affects several other areas of the world, including Latin America, Southeast Asia and Oceania.

### Signs and Symptoms of Malaria:

If someone becomes infected with malaria-causing parasite, it typically takes between 10 days and four weeks for symptoms to appear.

Include the following:

- Fever
- shaking chills
- Headache
- Muscle aches
- Fatigue
- profound weakness
- Nausea and vomiting
- chest or abdominal pain
- cough.

Some people with malaria experience cycles of "Attack" which usually begins with shaking chills followed by a high fever, sweating that return to normal body temperature.



## causes of Malaria:

Malaria occurs when parasitic protozoa of genus *Plasmodium* gets into your bloodstream. Usually malaria gain access to our bloodstream from saliva of a **female Anopheles mosquito** after the insect feeds on someone else with disease.

Treatment: Treatment for individuals with the disease includes

- medication to eliminate the parasite from the blood stream.
- Supportive care.
- hospitalization for those with severe symptoms
- Intensive care in some cases

## Anti-malarial Drugs:

The antimalarial drugs are given which include.

- 1 chloroquine
- 2 hydroxychloroquine
- 3 primaquine
- 4 artemisinin - based therapy
- 5 atovaquone - proguanil

However, the type of medication and length of treatment may vary.



**Typhoid**: Typhoid fever is an illness caused by the bacterium *Salmonella Typhi* (*S. Typhi*). It infects small intestines and causes high fever, stomach pain and other symptoms. Typhoid fever is also called (**enteric fever**).

Paratyphoid fever sometimes mentioned along with typhoid. Paratyphoid is similar to typhoid, with more mild symptoms. It is caused by *Salmonella paratyphi* (*S. paratyphi*).

It is estimated that 11 million to 21 million people around the world get typhoid each year. It is rare in the U.S., Canada, Japan, western Europe and Australia.

**Symptoms**: Typhoid fever gets its name from a high fever that can last for weeks if left untreated. It often gets progressively worse. Over a few



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Other symptoms of typhoid fever includes:

- Headache
- chills
- Loss of appetite
- Stomach (abdominal pain)
- "Rose spots on chest or stomach"
- cough
- Muscle aches
- Nausea, vomiting
- Diarrhea or constipation.

### Causing Agents:

- Typhoid fever usually spreads through food or water contaminated with (*S. Typhi*) this can happen if someone with typhoid touches something other eats or drinks without washing their hands.
- It can also happen / caused when contaminated water or waste water (containing  $\gamma$ ) gets mix into drinking water or food
- one can get typhoid from another person if they don't wash their hands after going to bathroom



When they touch surfaces like (phone or door knobs) they can leave bacteria behind that can transfer to another person who touches it.

## Management and treatments:

Typhoid is treated with antibiotics. Some new types of bacteria are able to survive antibiotics, so the treatment is done with other antibiotics depending on type of typhoid and where you got sick.

## Medication:

- ciprofloxacin, levofloxacin or ofloxacin.
- ceftriaxone, cefotaxime or cefixime
- Azithromycin
- carbapenems
- Steroids like dexamethasone (if case is severe)



Dengue: Dengue fever is a common viral disease caused by the dengue virus. In this case the dengue virus is transmitted by female mosquitoes (*Aedes aegypti*).

These dengue mosquitoes generally bite during the daytime and are found everywhere (both inside and outside the house). These mosquitoes are found to be at the peak of their activeness at dawn and dusk.

The symptoms can develop only after 8 to 10 days after being bitten by an infected mosquito.

Dengue virus has four varied serotypes to infect human beings. The serotypes denote set of microorganisms that are exceptionally closely associated.

can only be distinguished due to having dissimilar (Antigens)



## Symptoms:

### Mild symptoms: sudden

- Fever around  $104^{\circ}\text{F}$
- aching muscles and joints.
- rash
- pain behind eyes.
- nausea and vomiting
- facial flushing
- sore throat
- headache
- red eyes.

These symptoms lasts between 2-7 days typically and most people feel better after one week. They fever may spike, go away for 24 hours then spike again.

### Severe symptoms:

Between 0.5% and 5% of cases of dengue, fever becomes severe. If this happens it can be life threatening.

They include:

- abdominal pain and tenderness
- vomiting at least (3 times in 24 hours)
- bleeding from nose and gums



- vomiting blood.
- blood in stool.
- fatigue
- changes in temperature (very hot to very cold)
  
- weak and rapid pulse.
- a reduced difference b/w systolic and diastolic blood pressure.

### Causes:

Four viruses can cause dengue fever. They all are transmitted either by **Aedes aegypti** mosquito or more rarely the **Aedes albopictus** mosquitoes.

These species of mosquitoes lives tropical and subtropical areas around the world.

**Treatment:** Treatment for viral fever depends upon underlying cause, the degree of fever.

For example, a fever greater than **(104°F)** for children and **(103°F)** for adults can be medical emergency. A person likely



has serious viral infection.

For lower grade fever, treatments may include:

### 1 Taking OTC medications:

Ibuprofen and acetaminophen are both OTC medications that can relieve fever.

### 2 Taking luke warm baths:

These can also soothe a feverish body.

### 3 Drinking cooled fluids:

Sipping on cool water or electrolyte-containing solutions can help cool body temperatures and prevents dehydration related to illness, or to maintain platelet counts.

Dengue fever can cause a decrease in platelet count a condition known as **thrombocytopenia**.

due to several factors, the dengue virus directly affects bone-marrow where platelets are produced. can cause destruction



of platelets in bloodstream.

**polio:** polio (poliomyelitis) is a disease caused by polio virus. It causes mild or no symptoms in most people, but in some people, it can cause (paralysis) or death.

There are three variations of polio-virus: type 1, 2 and 3 (WPV1, WPV2 and WPV3). Wild polio types 2 and 3 have been eradicated, and wild polio type 1 only exist in a few parts of the world. Polio type 1 is most likely to cause paralysis.

**Types of polio:**

**Abortive poliomyelitis:**

causes flu like symptoms and intestinal symptoms. It only last few days and does not cause long-lasting issues.

**Non-paralytic poliomyelitis:**

may cause aseptic (meningitis) a swelling of the area around your brain. It causes



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Symptoms but is non paralytic.

**Paralytic poliomyelitis:** happens

When poliovirus attacks your brain and spinal cord. It can paralyze the muscles that allow you to breathe, speak, swallow and move your limbs depending on which parts of the body are affected. It is called spinal

polio and bulbar polio.

Spinal and bulbar polio can appear together (**bulbospinal polio**) less than **2%** of people with polio gets paralytic poliomyelitis.

**Polioencephalitis:** rare type of polio mostly affects infants. It causes brain swelling.

**Post polio Syndrome:**

is when symptoms of polio come back years after a polio infection.

**causes:** polio is caused by a virus (poliovirus) it infects throat and intestines, causing flu-like symptoms. It can spread to brain and spine.



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causing paralysis.

→ It spreads through coughing or sneezing or coming in contact with (feces) of an infected person.

→ Drinking contaminated water or getting it in your mouth.

→ Swimming in contaminated water when someone who has disease swims in it.

→ Touching contaminated surfaces

### Symptoms: (paralytic poliomyelitis)

→ sensitivity to touch

→ Muscles spasms

→ spinal poliomyelitis makes it so one is unable to move arms or legs or both paralysis

→ bulbar polio makes it hard to breathe, swallow and speak.

→ Fatigue, Anxiety

→ seizures.



Treatment: There are no specific medication to treat polio. If one has paralytic polio (physical therapy) is given and if breathing muscles are weakened or paralyzed, (mechanical ventilation) is given.

To improve symptoms:

- Drinking fluids (such as water, juice, and broth)
- heat pads to help muscles aches
- Taking pain reliever such as ibuprofen (Advil, Motrin)
- physical therapy recommended by healthcare provider
- getting plenty of rest.

polio is not curable. There is not any way to make it go faster or prevent paralysis.