

NATIONAL OFFICERS ACADEMY (NOA)

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Subject:- General Science and Ability

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(ASSIGNMENT #02)

MALARIA:-

Malaria is a disease caused by a parasite. The parasite is spread to humans through the bites of infected mosquitoes. People who have malaria usually feel very sick with a high fever and shaking chills.

Symptoms:-

- Fever
- chills
- General feeling of discomfort
- Headache
- Nausea and vomiting
- Diarrhea
- Abdominal pain
- Muscle or joint pain
- Fatigue
- Rapid breathing
- Rapid heart rate
- Cough

Causative Agent:-

Malaria is caused by protozoa of genus Plasmodium. Four species cause disease in humans:

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

Cause:-

Malaria is caused by infection with protozoan parasites belonging to genus Plasmodium transmitted by female Anopheles species mosquitoes.

Treatment:-

Anti-malarial drugs:

- Artemisinin drug
- Atovaquone
- Chloroquine
- Quinine
- Mefloquine
- Primaquine

• Prevention:

- Cover your skin
- Apply insect repellent to skin
- Apply repellent to clothing
- Sleep under a net
- Preventive medicines
- Vaccines

• DENGUE FEVER:-

Dengue (break-bone fever) is a viral infection that spreads from mosquitoes to people. It is more common in tropical and subtropical climate.

• Symptoms:-

- High fever ($40^{\circ}\text{C}/104^{\circ}\text{F}$)
- Severe headache
- Pain behind eyes
- Muscle and joint pains
- Nausea
- Vomiting
- Swollen glands
- Rash
- Fatigue
- Blood in vomit or stool
- Bleeding gums or nose
- Being very thirsty
- Feeling weak

Causative Agent:

The dengue virus is transmitted to humans through bites of infected female mosquitoes, primarily *Aedes aegypti* mosquito.

Causes:-

Dengue fever is caused by any one of four types of dengue viruses. You can't get dengue fever from being around an infected person. Instead, dengue fever is spread through mosquito bites.

Treatment:-

There is no specific treatment for dengue. The focus is on treating pain symptoms. Most cases of dengue fever can be treated at home with pain medicine.

Acetaminophen (paracetamol) is often used to control pain. Non-steroidal anti-inflammatory drugs like ibuprofen and aspirin are avoided as they can increase risk of bleeding.

Take more fluids.

Rest.

Fresh juices.

Prevention:-

Lower the risk of getting dengue by protecting yourself from mosquito bites by using:

- Clothes that cover as much of your body as possible;
- mosquito nets if sleeping during days
Ideally net sprayed with insect repellent;
- window screens
- mosquito repellents
- coils and vaporizers
- covering, emptying and cleaning domestic water storage containers
- disposing of solid waste properly -

POLIOMYELITIS:-

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

Symptoms:-

- Fatigue
- Fever
- Headache
- Vomiting
- Diarrhea or Constipation
- Sore throat

- neck stiffness
- pain or pins-and-needles feeling in your arms and legs
- Severe headache
- Sensitivity to light (photophobia)
- Muscle spasm.

Causative Agent:-

Polio is caused by virus (poliovirus).

Causes:-

- Not washing your hands after going to bathroom or touching poop (like changing diapers).
- Drinking contaminated water
- Eating food that have touched contaminated water.
- Swimming in contaminated water.
- Coughing or sneezing.

Treatment:-

There are no specific medications to treat polio. If you have paralytic polio, you'll receive physical therapy. You might be able to improve your symptoms by ~

- Drinking fluids
- Using heat packs to help muscle aches.

Date: _____

Day: _____

- Taking pain relievers.
- Doing physical therapy
- Getting plenty of medicines

• Prevention:-

The best way to prevent is to get vaccinated. Vaccination is usually done in childhood.

Healthcare officials recommend four polio shots in childhood:

- First shot at 2 months old.
- Second shot at 4 months old.
- Third shot between 6 and 18 months old.
- Booster shot between 4 and 6 years old.

• TYPHOID:-

Typhoid fever, also called enteric fever, is caused by salmonella bacteria.

• Symptoms:-

- Fever that starts low and increases throughout the day, possibly reaching as high as 104 degrees Fahrenheit (40°C).
- Chills
- Headache.
- Weakness and fatigue
- Muscle aches

- Stomach pain
- Rash
- Diarrhoea or constipation

• Causative Agent:-

typhoid fever is caused by bacteria "Salmonella".

• Causes:-

A bacteria strain called Salmonella enterica serotype typhi causes typhoid fever. Other strains of salmonella bacteria cause a similar disease called paratyphoid fever.

• Treatment:-

Typhoid fever is treated with antibiotics.

- Ciprofloxacin
- ceftriaxone
- Azithromycin
- Carbapenems

• Prevention:-

The best way to reduce your risk of typhoid fever is to get vaccinated if you live in or are travelling to an area where it's common.

HEPATITIS:-

Hepatitis is an inflammation of liver. It may be caused by viral infection, alcohol consumption, several health conditions or even some medications.

Causes:-

Type of hepatitis	Common route of Transmission
Hepatitis A	Exposure to HAV in food or water
Hepatitis B	Contact with HBV in body fluids, such as blood, vaginal secretions or semen.
Hepatitis C	Contact with HCV in body fluids such as blood, vaginal secretions or semen
Hepatitis D	Contact with blood containing HDV.
Hepatitis E	Exposure to HEV in food or water

• Symptoms:

- Fatigue
- Flu-like symptoms
- dark urine
- pale stool
- abdominal pain
- loss of appetite
- unexplained weight loss
- yellow skin and eyes, which may be signs of jaundice.

• Causative Agent:

Hepatitis can be caused by:

- Immune cells in body attacking liver.
- Infections from viruses (such as hepatitis A, hepatitis B or hepatitis C) or bacteria.
- Liver damage from alcohol or poison.

• Treatment:-

- IV fluids
- IV nutrition
- Pain relief
- Immune modulator drugs
- Oral antiviral medications

• Prevention:

- Not sharing personal items
- Planning ahead for travel abroad.
- Prophylactic treatment
- Practicing safe needle use
- Practicing safe sex
- Planning ahead of childbirth.

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