

WHY DO  
WE FALL ILL  
CLASS 9<sup>TH</sup>  
NOTES  
PDF

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# Why Do We Fall ill

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# Why Do We Fall Ill



## Introduction

### Health

Health is a complete state of physical, mental, and social well-being.

### The Immune System

An immune system is the part of the body that protects against infection from pathogens, invading foreign substances, and other toxins.

## **Skin and Mucous Membranes**

Skin and Mucous membranes act as the layer of defense. While skin protects the body externally, mucous membrane protects the insides of the body.

## **WBC**

WBC- White blood cells are called Leucocytes or Leukocytes. They are the important components of our immune system and are present in the blood and lymph. They function by attacking and killing pathogens and protecting our body free from pathogens and infections. There are different types of and are classified based on the location as well. The different types of White blood cells found in the blood are neutrophils, lymphocytes, monocytes, basophils, and eosinophils. These blood cells have specialized functions.

## **Macrophages and NK Cells**

Macrophages are large and specialized cells of the immune system. These cells are produced in response to infections or due to the development of damaged or dead cells. They attack cancer cells through destruction and ingestion. Natural Killer Cells bind to the enemy cell and they dissolve the membrane so the cell can't function.

## **Dendritic Cells**

Dendritic cells create memory and carry information about the pathogens to the liver, spleen, lymph nodes.

## **Inflammatory Response**

An inflammatory response is seen in the body when it gets injured or infected by a pathogen. Inflammations help in the localization of the issue and prevent it from spreading.

## **Diseases**

A disease is discomfort the body experiences physically or mentally. A disease could be caused due to external or internal factors. The two types of disease are:

### **Acute Diseases**

Acute diseases are those which last for a very short time. These diseases can be fatal and are usually caused by an external agent.

### **Chronic Diseases**

Chronic diseases are those which last for a long time. They take a lot of time to heal and can be caused by any external or internal factor.

### **Symptoms and signs of Diseases**

When the body gets diseased, it shows certain symptoms and signs of illness. These symptoms and signs help in the identification and diagnosis of the disease. A symptom is felt by the affected person while signs can be detected by another person. A symptom is thus, subjective and a sign is an objective.

# Causes of Disease

## Different types of Causes of Disease

Diseases can be caused due to pathogens such as viruses or bacteria. Some diseases can also be due to internal factors such as genetic mutation.

## Infectious Diseases

Diseases that are caused by pathogens and can spread to other individuals in the population are called infectious diseases.

## Non-infectious diseases

Diseases that cannot spread from one individual to another are called non-infectious diseases. Usually, these diseases are not caused by a pathogen.

## Pathogens

Pathogens are external agents that cause diseases in other organisms. This pathogen includes harmful microbes or microorganisms such as bacteria, viruses, fungi, or protozoa.

## Vector

Vectors are those organisms that carry a pathogen from the host to a recipient. Mosquito, rats, and mice are some of the common vectors that carry infectious diseases.

## **Bacteria**

Bacteria are microorganisms that are seen in almost all environmental conditions. Not all bacteria are harmful to pathogens. Some bacteria are also beneficial to human beings. Bacteria are beneficial for, digestion, extracting antibiotics from them, nitrogen fixation, etc.

A few of the common diseases caused by bacteria are cholera, typhoid, pneumonia, tuberculosis, etc.

## **Virus**

A virus is a microorganism that is always pathogenic. They do not have the molecular machinery to replicate without a host. Therefore, they enter the host cell and replicate and in the process destroy the host cell. A few of the common diseases spread by the viruses are cold, influenza, dengue fever AIDS, etc.

## **Fungi**

Fungi are a group of organisms that are eukaryotic in nature and saprophytic in nutrition. They could be either unicellular or multicellular organisms. Many common skin infections such as ringworm, nail infection, etc are examples of Fungal diseases

## **Parasites**

A parasite is an organism that lives in another organism, called the host, and often harms it. It is dependent on its host for survival – it has to be in the host to live, grow and multiply.

# Infections

## AIDS

AIDS stands for Acquired Immunodeficiency Syndrome. It is caused by the Human Immunodeficiency Virus. AIDS systematically destroys the immune system of the patient, leaving them vulnerable to the easiest of the diseases.

# Prevention of Disease

## Antibiotics

Antibiotics are antimicrobial drugs produced from other organisms, such as fungus and some bacteria, which are used for treating the harmful infections caused by pathogens or harmful microorganisms. These antibiotics function by:

- Alteration of Cell Membranes.
- Inhibition Antimetabolite Activity.
- Inhibition of Nucleic Acid Synthesis.
- Inhibiting of Cell Wall Synthesis (a most common mechanism).
- Inhibition of Protein Synthesis (Translation) (second largest class).

## Preventive Measures

Preventive measures can be taken to avoid infection of various diseases. The most common measure is the maintenance of hygienic conditions.

## **Immunization**

Immunization is the process whereby a person is made immune or resistant to an infectious disease. Vaccines are the common means to immunize people.

### **Why Do We Fall Ill Class 9 Extra Questions Very Short Answer Questions**

#### **Question 1.**

**What is meant by symptoms of a disease?**

**Answer:**

The conditions in which a sick person experiences headache, watering of eyes, loose motions, are collectively called the symptoms of a disease.

#### **Question 2.**

**Define reservoir.**

**Answer:**

A reservoir is defined as any person, animal, arthropod, plant, soil, or substance in which an infectious agent lives and multiplies for its primary survival.

#### **Question 3.**

**What is a source of infection?**

**Answer:**

The person, animal, object, or substance from which an infectious agent passes or is disseminated to the host is known as the source of infection.

**Question 4.**

**How can we diagnose a disease?**

**Answer:**

By laboratory tests.

**Question 5.**

**What is community health?**

**Answer:**

It is the personal health along with the environmental services for the importance of the health of the community.

**Question 6.**

**What does WHO stand for?**

**Answer:**

World Health Organisation.

**Question 7.**

**How can dehydration of the body be prevented?**

**Answer:**

Dehydration can be prevented by intake of ORS (Oral Rehydration Solution).

**Question 8.**

**How does WHO define health?**

**Answer:**

WHO defines health as a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity.

**Question 9.**

**Classify diseases based on their time of occurrence.**

**Answer:**

Congenital diseases and acquired diseases.

**Question 10.**

**What are congenital diseases?**

**Answer:**

The diseases which are present from the time of birth and are hereditary are called congenital diseases.

**Question 11.**

**Write the name of a disease that spreads through direct contact.**

**Answer:**

Leprosy

**Question 12.**

**Why is rabies also called hydrophobia?**

**Answer:**

Rabies is also called hydrophobia because its main symptom is fear of water.

**Question 13.**

**Name the disease-causing microbe that lives and remains active inside the host cell.**

**Answer:**

Virus

**Question 14.**

**Against what disease BCG vaccine is given?**

**Answer:**

Tuberculosis

**Question 15.**

**What are vectors?**

**Answer:**

The organisms that act as intermediaries and carry the infectious agents from a sick person to a potential host are called vectors.

**Question 16.**

**Name the vector of malaria.**

**Answer:**

Female Anopheles mosquito.

**Question 17.**

**What do you mean by the immune system?**

**Answer:**

The system in our body which protects us from the various disease-causing agents is called the immune system.

**Question 18.**

**Expand AIDS.**

**Answer:**

Acquired Immuno Deficiency Syndrome

**Question 19.**

**Expand HIV.**

**Answer:**

Human Immunodeficiency Virus.

**Question 20.**

**What is the incubation period of hepatitis B?**

**Answer:**

45 to 185 days

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