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# Health

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## Definition of Health and Disease

Health is a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity. True health means a balance between the body, mind, and environment. A disease is a condition that impairs the normal functioning of the body or mind.

## Types of Health

Health can be divided into three main types:

- **Physical Health:** The body's ability to function optimally, including strength, endurance, and absence of illness.
- **Mental Health:** Emotional and psychological well-being, including the ability to manage stress and maintain a positive outlook.
- **Social Health:** The quality of relationships and interactions with others, contributing to a supportive social environment.

## Maintaining Health

Maintaining health involves balanced nutrition, regular physical activity, adequate sleep, stress management, and maintaining cleanliness and hygiene. Ayurveda emphasizes daily and seasonal routines to maintain harmony between body, mind, and environment.

## Diseases

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### Definition and Causes

A disease occurs when a part of the body fails to function properly. Diseases can be caused by pathogens such as bacteria, viruses, fungi, and parasites, or by lifestyle and environmental factors.

## Types of Diseases

- **Communicable Diseases:** These are infectious diseases caused by pathogens and can spread from person to person or through vectors. Examples include flu, chickenpox, malaria, and tuberculosis.
- **Non-Communicable Diseases:** These are not contagious and often result from lifestyle factors such as poor diet, lack of exercise, smoking, and genetics. Examples include diabetes, heart disease, cancer, and asthma.

## Symptoms and Prevention

Symptoms vary depending on the disease but may include fever, fatigue, rashes, cough, and swelling. Prevention includes vaccination, good hygiene, clean water, balanced diet, exercise, and avoiding harmful habits.

## Pathogens, Vectors, and Transmission

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### Pathogens

Pathogens are microorganisms or agents that cause disease. They include living cellular organisms like bacteria, fungi, protozoa, and parasites, as well as non-living acellular agents like viruses.

### Vectors

Vectors are organisms such as mosquitoes and ticks that carry and transmit pathogens from infected individuals to healthy ones without getting sick themselves.

## Modes of Transmission

- **Airborne Transmission:** Pathogens spread through coughs and sneezes.
- **Direct Contact:** Physical touch or sharing personal items.
- **Indirect Contact:** Contact with contaminated objects or surfaces.
- **Vector-borne:** Transmission through insect bites.

## Prevention

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### Preventive Measures for Communicable Diseases

- Practice good personal hygiene such as regular hand washing and bathing.
- Get vaccinated against preventable diseases.
- Avoid close contact with infected individuals.
- Use mosquito nets and repellents to prevent vector-borne diseases.
- Maintain clean surroundings and safe drinking water.

### Preventive Measures for Non-Communicable Diseases

- Maintain a balanced diet rich in fruits, vegetables, and whole grains.
- Engage in regular physical activity.
- Avoid smoking, excessive alcohol consumption, and other harmful substances.
- Manage stress through relaxation techniques.
- Ensure adequate sleep of 7-9 hours per night.

## Immunity and Vaccination

Immunity is the body's ability to resist infections. Vaccination introduces a weakened or inactive form of a pathogen to train the immune system to recognize and fight the disease. Herd immunity occurs when a large portion of the population is immunized, reducing disease spread.

# Antibiotic Resistance

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## Definition and Development

Antibiotic resistance occurs when bacteria evolve to survive exposure to antibiotics, making infections harder to treat. It develops due to overuse, misuse, incomplete courses of antibiotics, and use in agriculture.

## Impact

- Longer hospital stays and higher medical costs.
- Increased mortality from previously curable infections.
- Reduced effectiveness of common antibiotics.

## Prevention

- Use antibiotics only when prescribed by a doctor.
- Complete the full course of antibiotics.
- Avoid self-medication and misuse.
- Maintain good hygiene to prevent infections.
- Educate others about responsible antibiotic use.

## Solved Examples

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## Practice Set

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- **Level 1 – Easy:** What are the three types of health? Explain each briefly.
- **Level 2 – Moderate:** Describe the difference between communicable and non-communicable diseases with examples.
- **Level 3 – Challenging:** Explain how antibiotic resistance develops and suggest measures to prevent it.

## Answer Key

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- **Level 1:** Physical health (body's functioning), mental health (emotional well-being), social health (quality of relationships).
- **Level 2:** Communicable diseases are infectious and spread through pathogens (e.g., flu, malaria). Non-communicable diseases are not infectious and often lifestyle-related (e.g., diabetes, heart disease).
- **Level 3:** Antibiotic resistance develops when bacteria survive antibiotic treatment due to misuse or overuse. Prevention includes using antibiotics only as prescribed, completing courses, avoiding self-medication, and maintaining hygiene.

## Quick Reference Table

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## Common Mistakes and Misconceptions

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## Glossary

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