

STD 10-BIOLOGY-FIRST BELL-CLASS-29 Date 11/11/2020
Chapter – 5

Soldiers of Defense

- We live among the germs that cause various diseases still we are not always infected.
- This is because we have a defense mechanism that can prevent the entry of germs and destroy that have already entered our body.
- Preventive measures are essential for the survival of the life .



- **What are the uses of wearing masks and taking precautions by people in places where epidemics spread out ?**
 - Prevent the entry of germs.
 - The risk of transmitting diseases to others is reduced.
 - Such precautions prevent the entry of pathogens into the body to a certain extent.

The natural defense mechanisms in our body to prevent the entry of pathogens are :

- Skin
- Mucous membrane
- Saliva
- Tear
- HCl
- Blood
- Lymph

Defense Mechanism

- Defense is the ability of the body to prevent the entry of pathogens and to destroy those that have already entered the body.
- Our body is well equipped with a variety of defense mechanisms.

DEFENSE MECHANISMS IN OUR BODY

Body covering and secretions

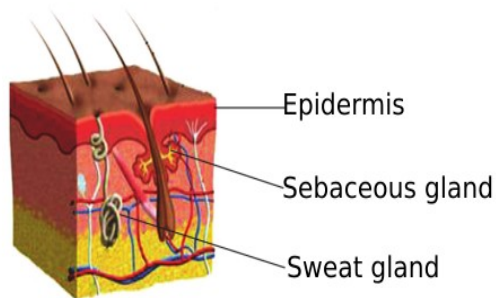
- 1.Skin
- 2.Mucous membrane
- 3.Mucous
- 4.Saliva
- 5.Tear

Body Fluids

- 1 Blood
- 2 Lymph

Body Coverings and Secretions

SKIN



- Skin is the protective covering of the body.
- It is a safety shield that prevents the entry of germs

Defense mechanism of skin:

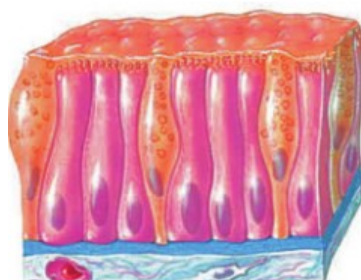
Epidermis : A protein called keratin present prevents the entry of germs.

Sebaceous gland : Sebum produced by the gland makes the skin oily and water proof.

Sweat gland : The disinfectants present in the sweat produced by this gland destroys the germs

Mucous membrane and Mucous

- The mucous membrane is a protective covering of body parts



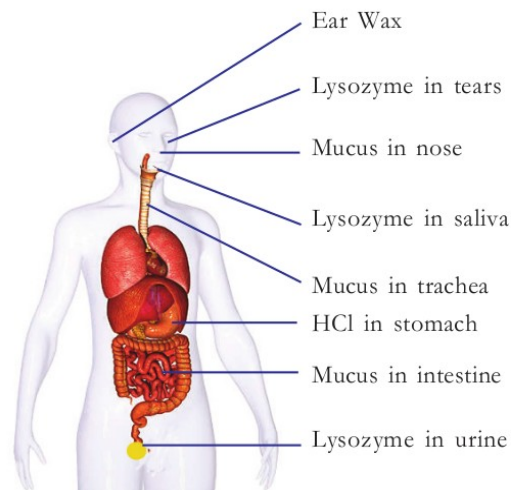
Defense mechanism of Mucous membrane:

- Pathogens trapped in the mucus produced by this membrane, get destroyed.
- The destroyed germs are expelled out by the cilia cells of the mucous membrane.

Destruction of germs by bacteria

- Coverings of the body act as a habitat for many useful bacteria.
- The germs that enter the body need to compete with such useful bacteria for shelter and nutrients.
- A great number of germs get destroyed in this competition.

Secretions of the body as defense mechanism



Secretions by different parts of the body prevent the entry of pathogens into the body and destroys that have already entered .

BODY PARTS	SECRETIONS
Ear	Wax
Eye	Lysozyme in tears
Nose	Mucus
Mouth	Lysozyme in saliva
Trachea	Mucus
Stomach	H Cl (Hydrochloric acid)
Intestine	Mucus
Urinary tract	Lysozyme

Ways to maintain healthy defense mechanism:

- Intake of Nutritious food
- Regular Exercise
- Avoid bad habits

Evaluation

1. Prepare a note on body covering and defense mechanism.