



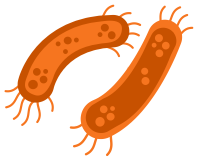
**Libyan International Medical University**  
**Faculty of Pharmacy**



# Infections

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# **By the end of this presentation you will be able to:**

- ❖ Define the infections.
- ❖ Explain a chain of infections as a cycle
- ❖ Discuss the causes of infectious.
- ❖ Discuss Incubation Period
- ❖ Discuss symptoms of infectious
- ❖ Discuss the treatment of various infections and how to preventing from it .

# Introduction

Infection is the invasion and growth of germs in the body.

The germs may be bacteria, viruses, yeast, fungi, or other microorganisms. It can begin anywhere in the body and may spread all through it, these infectious microscopic organisms are known as **pathogens**, and they can multiply quickly and cause harm.

Microorganisms that live naturally in the body are not considered infections. For example: bacteria that normally live within the mouth and intestine are not infections.

An infection can cause fever and other health problems, depending on where it occurs in the body.

When the body's immune system is strong, it can often fight the germs and cure an infection.



## Next Sick Person

*(Susceptible Host)*

- Babies
- Children
- Elderly
- People with a weakened immune system
- Unimmunized people
- Anyone



## Germ

*(Agent)*

- Bacteria
- Viruses
- Parasites



## How Germs Get In

*(Portal of Entry)*

- Mouth
- Cuts in the skin
- Eyes



# Chain of Infection

## Where Germs Live

*(Reservoir)*

- People
- Animals/Pets (dogs, cats, reptiles)
- Wild animals
- Food
- Soil
- Water



## Germs Get Around

*(Mode of Transmission)*

- Contact (hands, toys, sand)
- Droplets (when you speak, sneeze or cough)



## How Germs Get Out

*(Portal of Exit)*

- Mouth (vomit, saliva)
- Cuts in the skin (blood)
- During diapering and toileting (stool)



# Causes of infections:

## 1-Bacterial infections.

A bacterial infection occurs when bacteria enter the body, And then they begin to multiply rapidly.

Bacteria can enter the body through an opening in your skin, such as a cut or a surgical wound.

or through your airway and cause infectious diseases,

Like tuberculosis for example, it is caused when bacteria grows in the lungs where it then enters the bloodstream and spreads throughout the body- attacking multiple areas of the body.



# Causes of infection:

## 2-Viral infection:

Viruses cause illness by killing cells or interfering with cell function.

where it releases its genetic material.

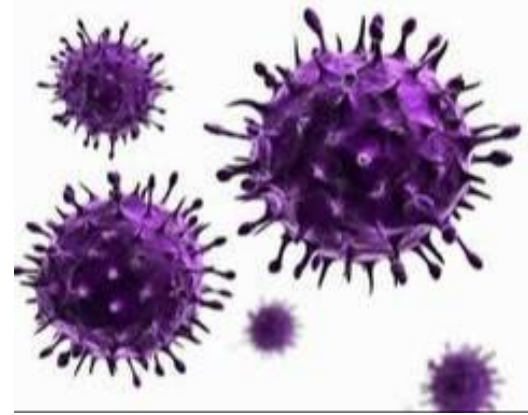
The virus multiplies as the cell replicates.

repeating the process and leading to a widespread infection.

Common examples:

include the flu, the common cold,

which is caused by a viral infection of the upper respiratory tract



# Causes of infections:

## 3-Fungal infections:

The main cause of fungal infection is compromised immunity (either local immunity over the skin or mucous membranes or systemic immunity as seen in the case such as diabetes and HIV/cancer patients).

Other causes like

A moist environment, and sweating

Like in tinea which is a common and contagious skin disease





# Causes of infections:

## 4-Parasitic infection:

Parasitic infections can be caused by three types of organisms:

- protozoa
- helminths

Parasitic infections can be caused in a number of ways and most of them living in the GIT system.

For example, protozoa and helminths can be caused through contaminated water, food, waste, soil, and blood.

Some parasites are spread by insects that act as a vector, or carrier, of the disease.

such as in malaria is caused by parasitic protozoa that are transmitted by mosquitos when they feed on humans.

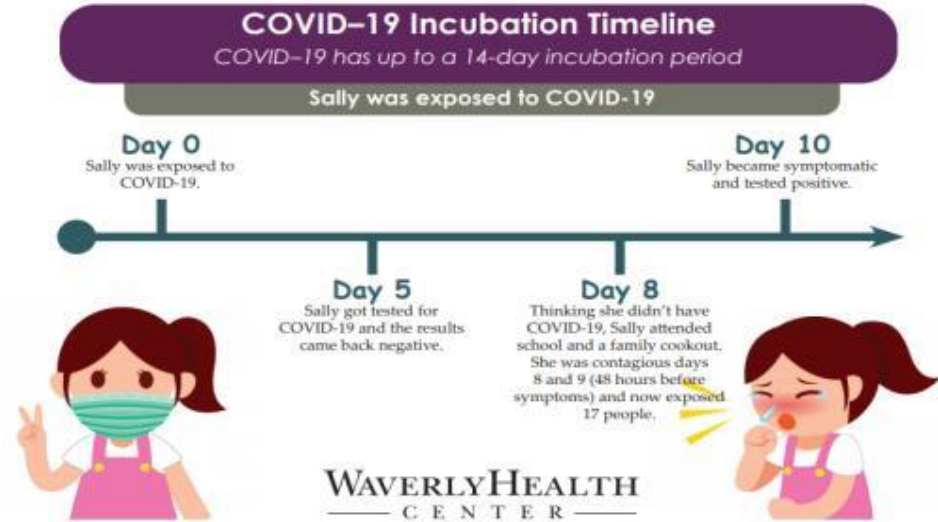




# Incubation Period

The incubation period is the number of days between when you're infected with something and when you might see symptoms.

Health care professionals and government officials use this number to decide how long people need to stay away from others during an outbreak. It's different for every condition.



# What are the symptoms of infectious diseases?

Symptoms of infectious disease are particular to the type of disease. For example, symptoms of influenza include:

**Fever**



**Chills**



**Congestion**



**Fatigue**



**Headache**



# Other infectious diseases, such as Shigella, cause more serious symptoms, including:

- Bloody diarrhea
- Vomiting
- Fever
- Dehydration (lack of fluid)
- Shock

You may experience one or several symptoms of an infectious disease.



# Risk factors

While anyone can catch infectious diseases, you may be more likely to get sick if your immune system isn't working properly. This may occur if:

- People with suppressed immune systems, such as those going through cancer treatment or who have recently had an organ transplant.
- Those who are unvaccinated against common infectious diseases.
- Healthcare workers.
- People traveling to at-risk areas where they may be exposed to mosquitoes that carry pathogens such as malaria.



# Infectious Disease Treatment

Treatment of an infectious disease depends on the cause.

**Bacterial diseases:** Most bacterial infections are treated with antibiotics.

These medications kill bacterial or stop them from reproducing.

**Antibiotics** may be given orally (pill, capsule or liquid) or **by injection**, intravenous (IV) line, **creams or drops**.

**Viral diseases:** There are treatments for a few viral infections, such as influenza, hepatitis C, and herpes zoster (shingles), but for most viruses, treatment focuses on relieving the symptoms.

**Fungal diseases:** Fungal infections are treated with medications called anti-fungals. They can be topical (creams) to treat infections such as athlete's.



# Infectious Disease Treatment

## Parasitic disease:

Some drugs (antiparasitic drugs) are designed particularly to eliminate parasites or, in the case of some worm infections, reduce the number of worms enough so that symptoms clear up.

Also, certain antibiotics and antifungal drugs are effective against some parasitic infections.

## Popular Parasitic Infection Drugs



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Tindamax



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Flagyl

# Preventing infectious diseases





# Preventing infectious diseases

Preventing infectious diseases focuses on hygiene and making it difficult for the organism to spread .

Prevention methods include :

- **Frequent and thorough** hand washing after coming in contact with someone who is ill , animals or animal droppings
- **Keeping your hands away** from your mouth and nose
- **Maintain a hygienic , sanitary** household with special attention to the kitchen and bathrooms .



# Preventing infectious diseases

- **Avoiding people who** are coughing or sneezing , and if you must cough or sneeze , doing so in your elbow to limit the spread of any infections
- **Being up - to - date on vaccinations** , to reduce the risk of viral infections
- **Keeping all open wounds** clean and covered
- **Avoiding insect bites** by covering up and using insect repellent
- **Drinking or eating** food only from trusted sources

# Summary

## After this present you able to :

- Known what is infections mean
- Infection disease and all it causes
- The bacterial and viral then flagila ,parasitic infection diseases
- How to treat and preventing from it
- The risk factors that exposing to get it

# Reference

<https://slidesgo.com/theme/bacterial-disease#search-infection+disease&position-3&results-7>

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**Thank you**