

COVID 19:INFECTION PREVENTION & CONTROL

INFECTION TYPES & CATEGORIES

What is infection?

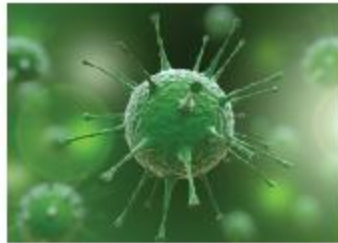
- Infection and infectious diseases in humans are caused when harmful germs, known as **pathogens (or pathogenic micro-organisms)**, enter the body and grow.
- These micro-organisms are so small they can only be seen by using a microscope.
- Pathogen is something that causes disease

Infections Diseases

- Infectious diseases, unlike other diseases such as heart disease and diabetes, can spread from person to person. As with all illnesses, prevention is better than cure.
- Following **agreed ways of working** that stop the spread of pathogens can help to prevent and control infection.

Pathogenic Organisms

- Bacteria
- Germs
- Viruses
- Fungi
- Parasites
- Protozoa



Bacteria

- Bacteria that can multiply quickly at body temperature and reach harmful levels very fast.
- Examples of harmful bacteria include meticillin-resistant *Staphylococcus aureus* (commonly known as MRSA) and *Clostridium difficile* (known as *C.Diff* or *C. Difficile*).
- *These two types of bacteria caused or contributed to 9000 deaths in hospitals or primary care in 2007.*

Viruses

- Viruses can survive on surfaces and in food but can multiply only in living cells.
- It takes very few virus organisms to cause illness.
- They can be spread from person-to-person and from environment-to-food.
- Examples of viruses include Norovirus (of which COVID 19 is one) and Influenza (the flu virus). SARS, MERS, Asian flu, Hong Kong flu are as well known corona virus

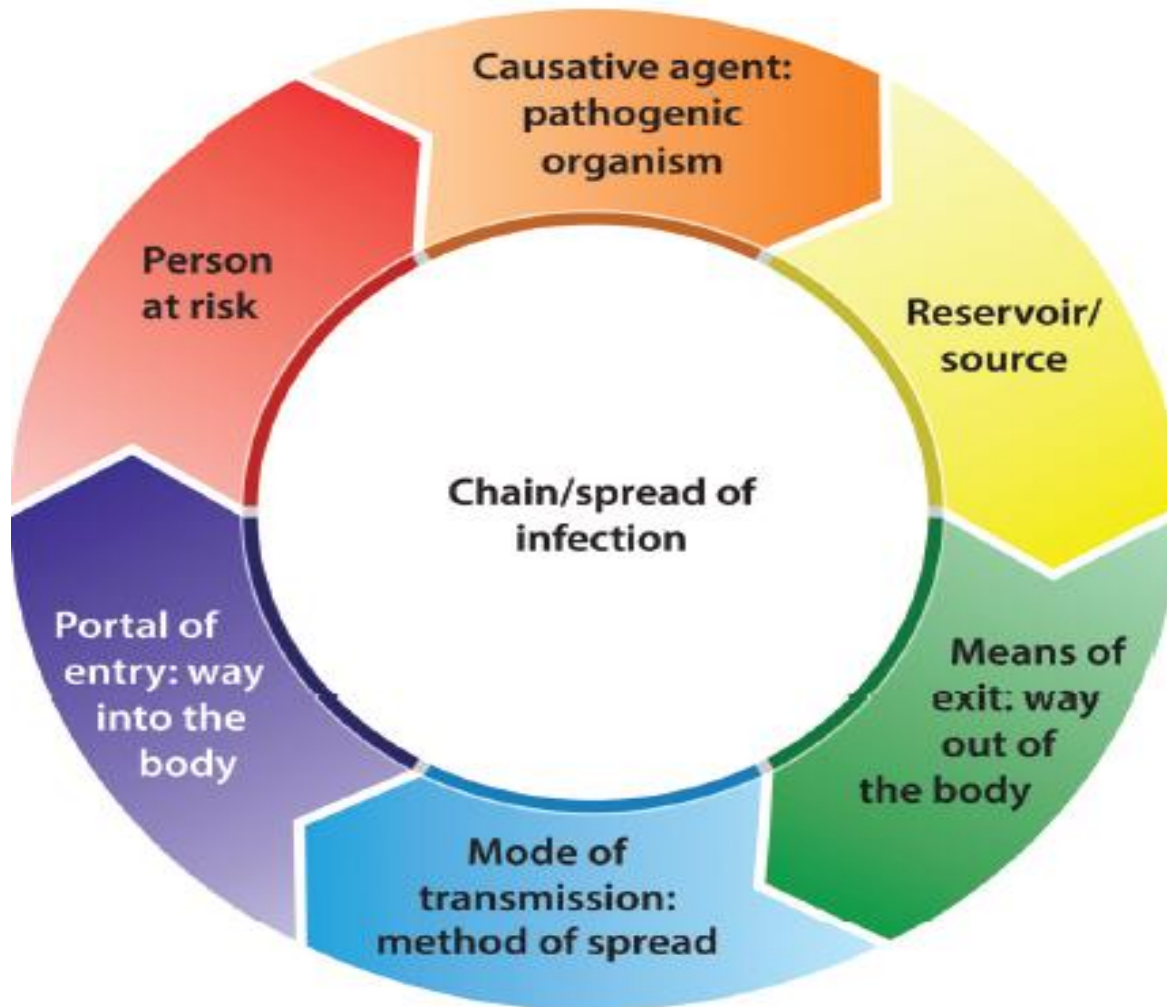
Fungi, Parasites & Protoza

- **Fungi** are organisms which live on hosts that can be alive or dead. Examples of fungal infections include; athlete's foot and ringworm.
- **Parasites** live on or in another animal or a plant, known as the host. Scabies is caused by mites that burrow into the skin causing severe itching.
- **Protozoa** are single-celled organisms that live in water and damp conditions. Malaria is an example of a disease caused by protozoa.

Vulnerable Groups

- Some groups of people may be more vulnerable to infection, for example because of age or general health or some particular illness.
- If these groups become infected the symptoms may be serious and life-threatening.
- If the micro-organisms which cause the illness are resistant to antibiotics, it can be difficult to treat the illness.

The Chain of Infection



The Chain of Infection 1st & 2nd Links

- In order for the spread of infectious diseases to take place the 'chain of infection' must be completed.
1. The **first link** in the chain is the causative agent. This is the harmful germ or pathogen that can cause infection, illness and disease. Examples include bacteria and viruses.
 2. The reservoir or source. This is where pathogens live and multiply. Remember, that could be in or on a person or animal (host), or in soil or water or food.

The Chain of Infection: Means of Exit

3. The means of exit. This is how pathogens leave the source.
 - For example, pathogens that live in the respiratory tract (the lungs, throat, etc.) can leave the body through the mouth or nose in saliva or mucus when coughing or sneezing.
 - Other examples of means of exit are broken skin, mucous membranes such as the eyes, via the stomach and via the intestines and anus.

The Chain of Infection: Mode of transmission

4. The mode of transmission. It refers to how the pathogen is passed on from one person to another.
 - Contact transmission is the most common route of transmission of pathogens in a health and social care workplace.
 - This can happen by direct contact (such as hand-to-hand) or indirect contact (via objects such as equipment).
 - Pathogens such as those that cause influenza and chicken pox can stay in the air for a long time and can be breathed in by other people

Chain of Infection: the Portal of Entry

5. The portal of entry.

- This is the way that the pathogen enters the body of the potential host.
- Pathogens can enter the body by coming into contact with broken skin, being breathed in or eaten, coming into contact with the eyes, nose and mouth or, for example when needles or catheters are inserted.

Chain of Infection: Person at Risk

6. The person at risk.

- A person at risk is the individual the pathogen moves to.
- The risk of a person becoming infected depends on factors such as their general health and the strength of their immune system (which is the body's system for fighting germs and micro-organisms).

Breaking the Chain

- Preventing infection means breaking the links in the chain so that an infection cannot spread.
- Some links are easier to break than others.
- For example, it is easier to stop a pathogen from entering a person than it is to stop one leaving an infected person.

Breaking the Chain

- The steps taken to protect individuals and workers from infection are an important part of providing high quality care and support.
- It is vital to remember that not everybody who carries harmful micro-organisms will be ill or show any symptoms, so you must work in ways that prevent infection at all times.(asymptomatic)
- Standard precautions are the actions that should be taken in EVERY situation to reduce the risk of infection.

Standard Precautions

- good hand hygiene
- safe disposal of waste
- safe management of laundry correct
- use of personal protective equipment (PPE).