

Transmission of Infectious Diseases

Work-related infectious diseases are caused by different infectious agents. The four major biological agents are bacteria, fungi, viruses, and parasites. Other categories include allergens, infected clinical specimens, tissues from experimental animals, and toxins (bacterial, plant, etc.)

One of the most dangerous and distinguishing characteristics of hazardous biological agents is their ability to replicate. Unlike chemical agents, infectious biological agents can reproduce: small numbers of infectious biological agents can potentially give rise to much larger populations when released from a controlled environment. Although "safe" doses of chemical and physical agents are often specified, there is no "safe" level of a noncontained pathogenic organism.

How are infectious agents transmitted?

The process by which infectious agents are transmitted can be explained using the "chain of infection" theory.

Infectious agents are the first link of the chain. These germs are capable of producing disease.

Before these germs can cause disease in an uninfected individual, they must first find a reservoir—a place where they can live and multiply. A reservoir can be people, animals, insects, and non-living objects.

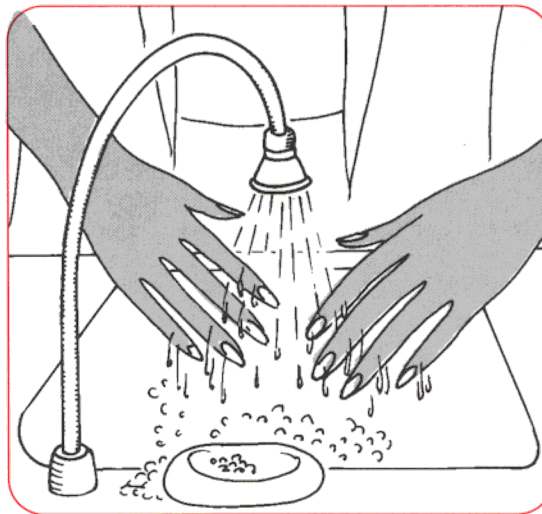
If the reservoir is a person, then this person can be classified as a carrier or a clinical case.

Carrier: Persons who do not have any signs or symptoms of disease but are capable of spreading infection to others. These individuals may not be aware that they are carriers and unknowingly spread infection.

Clinical Cases: Persons who have been diagnosed as having an infection and/or have signs and symptoms of disease.

In order for the infected person to pass the germs along to someone else, the germs have to exit the body. The infectious agent can leave by way of the mucous membranes, eyes, nose, mouth, genitals, rectum, cuts, and abrasions.

Once the germs exit the infected person, they can enter the uninfected individuals through the mouth, nose, mucous membranes, eyes, cuts, and abrasions, genitals, and rectum.



The process by which transmission can happen

Direct transmission: Direct contact with infected individuals. This includes kissing, touching, and sexual contact

Indirect transmission: Contact with an object or surface containing germs: using a dirty tissue or used needles and syringes, or drinking from a contaminated glass.

Airborne: Inhaling contaminated air, especially after someone has sneezed or coughed.

Whether a person becomes infected is dependent upon several factors. An individual may be resistant, meaning that their body can fight off an infection. A person may be more susceptible because their body's immune system is not strong enough to fight off infection. A weakened immune system may result from a person having another infection, poor nutrition, a lack of rest or exercise or an individual's habits, such as cigarette smoking or drinking of alcoholic beverages.

In order to protect yourself against infectious agents in the workplace, you should:

- Receive all recommended doses of immunizations;
- Follow infection control guidelines implemented by your employer;
- Wear the appropriate personal protective equipment supplied.

If infection control procedures or personal protective equipment are not available, ask your supervisor. If you do not get an appropriate response, contact your union representative immediately.