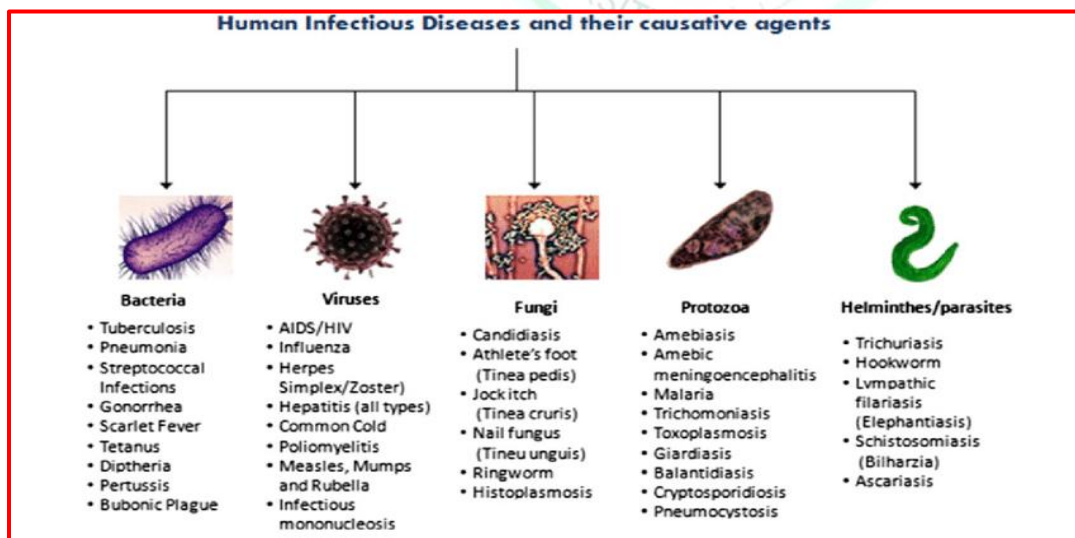


Infectious Diseases

What are Infectious Diseases?

Infectious diseases are illnesses, infections, or other health disorders that are caused by organisms that enter the body and multiply. These small organisms (microorganisms) include bacteria, viruses, fungi, and parasites. They may also be called pathogens or biological agents.

Microorganisms are everywhere in nature. They are found in water, soil, plants, and animals. Many reproduce rapidly and require little to survive. Most are harmless and sometimes even helpful. Under some circumstances they cause diseases. Some also evolve and adapt to new environments, making them potentially hazardous to human health, even if they didn't start out that way.



How are infectious disease spread?

Organisms that carry or cause infectious diseases can easily spread, causing outbreaks of an illness. They may spread from person to person, from insect or animal bites, from eating contaminated food/water, or simply by contacting the organism in the environment. Learning how infectious diseases are transmitted is important for determining proper infection prevention and control measures, and must be considered in risk assessment.

Routes of transmission for infectious diseases.		
Contact	Direct	Direct physical contact between the source and the susceptible person, including exposure to skin and body secretions. Examples: Influenza virus; touching a wound; Infectious mononucleosis; chlamydia
	Indirect	Infectious agent deposited onto an object or surface (fomite) and survives long enough to transfer to another person who subsequently touches the object. These may include medical equipment, clothing, bedding or even drinking cups. Examples: Influenza; Norwalk, rhinovirus; gram-positive bacteria; gram-negative bacteria; a typical bacteria
	Droplet	Transmission expelled from respiratory secretions by coughing, sneezing or talking. Droplets are large particles that rapidly settle on surfaces or come in contact with the nose, mouth, or eyes. Examples: Meningococcus; Influenza; respiratory syncytial virus (RSV)
Non-Contact	Airborne	Transmission via aerosols (microscopic airborne particles) that stay suspended in the air. Can be spread via ventilation systems. Examples: Tuberculosis (TB); measles; chickenpox.
	Vehicle	Infection spreads from a single contaminated source to multiple hosts. This can be either a point source or a common source. Point source examples: Food-borne outbreak; medical equipment Common source examples: The cyanide poisoning of Tylenol in 1982; cases may be widespread due to transportation and distribution of the source (in this case, the medication)
	Vector-borne	Infectious agents are transmitted to humans by insect or animal vectors Examples: Zika virus from mosquitoes; lyme disease from ticks; hantavirus from rodent feces and urine
	Aerosol Transmissible	Infectious agents are suspended or present in particles or droplet and contact the eyes, nose, mouth, or are inhaled. Examples: Ebola, influenza, mumps, pertussis

any of these means of transmission can happen in the workplace. The risk of becoming ill from an infectious disease depends on the opportunity for exposure, the overall health or susceptibility of the person, and the virulence of the disease.

Virulence means how harmful the organism is, or its ability to cause disease. It also refers to the severity of the disease after it is contracted. Basically virulence describes how effective a pathogen is at making a person sick. Ebola is an example of a highly virulent disease.

Some people are more likely to get diseases than others. Those who have compromised immune systems (a weakened ability to fight off diseases) are at greater risk. If a person is already sick with something else, he or she is more susceptible to (likely to get) another disease. The medical term for a weakened immune system is immunocompromised. Very young and very old people are also more likely to get sick.

Sometimes people can become immune to a disease, either by having already had the illness or by getting a vaccination against the illness. Immunity means that you will not get, or have a very low probability of getting, a disease even if you are exposed to it. To protect against some diseases, workers who are at high-risk (workers in healthcare settings or unsanitary environments) should make sure that they are vaccinated against likely diseases if the vaccinations are available.