Graduate Certificate in Adopting AI for Infection Prevention and Control

Fundamentals of Infection Prevention and Control

Antimicrobial stewardship: The practice of optimizing the use of antimicrobial agents (including antibiotics, antivirals, and antifungals) to minimize the development of antimicrobial resistance and ensure that these medications remain effective for treating infections.

Aseptic technique: A set of procedures and practices used to prevent contamination of sterile materials or environments, typically involving the use of personal protective equipment (PPE), sterile instruments, and proper handling techniques.

Bacteria: Single-celled microorganisms that can reproduce rapidly and are capable of causing a wide range of infections in humans, animals, and plants.

Contact precautions: Infection prevention measures used when caring for patients with known or suspected infections that can be transmitted through direct or indirect contact. These measures typically involve the use of PPE, such as gloves and gowns, and dedicated equipment.

Coronavirus: A family of viruses that can cause respiratory infections in humans and animals, ranging from the common cold to more severe illnesses such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).

Disinfection: The process of eliminating or reducing the number of pathogens on inanimate objects or surfaces, typically using chemical agents or physical methods such as heat or radiation.

Environmental cleaning: The process of removing dirt, debris, and germs from surfaces and objects in the environment, typically using a combination of cleaning agents and disinfectants.

Epidemiology: The study of the distribution and determinants of health-related events, including infectious diseases, in populations.

Hand hygiene: The practice of cleaning hands using soap and water or an alcohol-based hand sanitizer to prevent the spread of germs and reduce the risk of infection.

Healthcare-associated infections (HAIs): Infections that occur in healthcare settings, such as hospitals, long-term care facilities, and outpatient clinics, and are associated with the delivery of healthcare services.

Infection prevention and control (IPC): A set of practices and procedures used to prevent and control the spread of infections in healthcare settings, including the use of PPE, hand hygiene, environmental cleaning, and other measures.

Nosocomial infections: See Healthcare-associated infections (HAIs).

Personal protective equipment (PPE): Devices or clothing worn by healthcare workers to protect themselves and patients from the spread of infectious agents, including gloves, gowns, masks, and eye protection.

Respiratory protection: The use of devices such as masks, respirators, and hoods to protect the respiratory system from inhaling airborne particles, including infectious agents.

Severe Acute Respiratory Syndrome (SARS): A severe respiratory illness caused by a coronavirus, first identified in China in 2002.

Standard precautions: Infection prevention measures used for all patients, regardless of their infection status, to prevent the spread of infectious agents. These measures typically involve the use of PPE, hand hygiene, and environmental cleaning.

Sterilization: The process of destroying or removing all forms of microbial life, including bacteria, viruses, and fungi, from objects or surfaces, typically using heat, radiation, or chemicals.

Transmission-based precautions: Infection prevention measures used for patients with known or suspected infections that can be transmitted through direct or indirect contact, droplets, or airborne particles. These measures typically involve the use of PPE, environmental cleaning, and other measures.

Universal precautions: See Standard precautions.

Vaccination: The administration of a vaccine, which is a preparation containing a weakened or inactivated form of a microorganism or its toxins, to stimulate an immune response and provide protection against a specific infection.

Viral load: The amount of virus present in an infected individual's blood or other bodily fluids, which can be used as an indicator of the severity of infection and the risk of transmission to others.

Virus: A small infectious agent that replicates inside the living cells of other organisms, causing a wide range of diseases in humans, animals, and plants.

Zoonotic infections: Infections that are transmitted between animals and humans, either directly or indirectly, and can pose a significant public health risk.