
Certificate Programme in Healthcare Facility Design and Layout (United Kingdom)

Infection Control And Prevention

Aerosol Generating Procedure refers to medical procedures that can generate aerosols, which are airborne particles that can harbor microorganisms, such as during intubation or bronchoscopy, and require specific infection control measures to minimize the risk of transmission. Related terms include personal protective equipment and ventilation systems. Aerosol generating procedures pose a high risk of transmission of airborne pathogens, and it is essential to use appropriate personal protective equipment, such as respirators, and to ensure adequate ventilation in the area where the procedure is being performed.

Airborne Precautions are a set of infection control measures designed to reduce the transmission of airborne pathogens, such as tuberculosis, varicella, and measles, and include the use of respirators and negative pressure isolation rooms. Airborne precautions are used in addition to standard precautions and are essential for preventing the transmission of airborne pathogens in healthcare settings.

Antimicrobial Stewardship refers to the appropriate use of antimicrobial agents, such as antibiotics, to minimize the development of antimicrobial resistance and reduce the risk of adverse events. Antimicrobial stewardship involves a multidisciplinary approach, including pharmacists, infectious disease specialists, and other healthcare professionals, to ensure that antimicrobial agents are used judiciously and only when necessary.

Bacteria are microorganisms that can cause a wide range of infections, including pneumonia, urinary tract infections, and skin infections, and can be spread through contact with contaminated surfaces, airborne transmission, or vector-borne transmission. Bacteria can be resistant to antimicrobial agents, making treatment challenging, and it is essential to use infection control measures, such as hand hygiene and sterilization, to prevent the spread of bacterial infections.

Bloodborne Pathogens are microorganisms that are present in blood and can cause infections, such as HIV, hepatitis B, and hepatitis C, and can be transmitted through needlestick injuries or blood splashes. Bloodborne pathogens can be prevented through the use of personal protective equipment, such as gloves and gowns, and through the implementation of safety protocols, such as safe injection practices.

Chain of Infection refers to the sequence of events that leads to the transmission of an infectious agent, including the reservoir, portal of exit, mode of transmission, portal of entry, and susceptible host. Understanding the chain of infection is essential for developing effective infection control measures, such as hand hygiene and isolation precautions.

Cleaning refers to the removal of dirt, dust, and other substances from surfaces, and is an essential step in preventing the spread of infections. Cleaning can be done using detergents and water, and can be

performed manually or using automated equipment.

Contact Precautions are a set of infection control measures designed to reduce the transmission of pathogens that are spread through direct or indirect contact, such as methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridioides difficile* (C. diff). Contact precautions include the use of gloves and gowns, and the implementation of isolation protocols.

Decontamination refers to the process of removing or inactivating microorganisms from surfaces or equipment, and can be done using chemical disinfectants or physical methods, such as heat or radiation. Decontamination is an essential step in preventing the spread of infections, and can be performed using a variety of methods, including sterilization and disinfection.

Disinfection refers to the process of reducing the number of microorganisms on a surface, and can be done using chemical disinfectants or physical methods, such as heat or radiation. Disinfection is an essential step in preventing the spread of infections, and can be performed using a variety of methods, including sterilization and decontamination.

Epidemiology is the study of the distribution and determinants of health-related events, diseases, or health-related characteristics among populations, and is essential for understanding the spread of infections and developing effective infection control measures. Epidemiology involves the collection and analysis of data, and can be used to identify risk factors and develop strategies for prevention and control.

Fungi are microorganisms that can cause a wide range of infections, including skin infections, respiratory infections, and bloodstream infections, and can be spread through contact with contaminated surfaces or airborne transmission. Fungi can be resistant to antimicrobial agents, making treatment challenging, and it is essential to use infection control measures, such as hand hygiene and sterilization, to prevent the spread of fungal infections.

Hand Hygiene refers to the practice of cleaning and disinfecting hands to prevent the spread of infections, and is one of the most effective ways to prevent the transmission of microorganisms. Hand hygiene can be performed using soap and water or using alcohol-based hand sanitizers.

Healthcare-Associated Infections (HAIs) are infections that are acquired in a healthcare setting, such as hospitals, clinics, or nursing homes, and can be caused by a wide range of microorganisms, including bacteria, viruses, and fungi. HAIs can be prevented through the use of infection control measures, such as hand hygiene, isolation precautions, and sterilization of equipment.

Infection Control refers to the practices and procedures used to prevent the spread of infections in healthcare settings, and includes measures such as hand hygiene, isolation precautions, and sterilization of equipment. Infection control is essential for preventing the transmission of microorganisms and reducing the risk of healthcare-associated infections.

Infection Prevention and Control (IPC) refers to the coordination of activities and interventions aimed at preventing and controlling the spread of infections in healthcare settings, and includes measures such as surveillance, outbreak investigation, and education and training of healthcare workers.

Isolation Precautions are a set of infection control measures designed to reduce the transmission of pathogens that are spread through contact, droplet, or airborne transmission, and include the use of personal protective equipment, such as gowns and masks, and the implementation of isolation protocols.

Microbiology is the study of microorganisms, including bacteria, viruses, fungi, and parasites, and is essential for understanding the causes of infections and developing effective infection control measures. Microbiology involves the identification and characterization of microorganisms, and can be used to develop diagnostic tests and treatment strategies.

Molecular Diagnostics refers to the use of molecular biology techniques, such as polymerase chain reaction (PCR), to detect and identify microorganisms, and is essential for diagnosing infections and developing effective treatment strategies. Molecular diagnostics can be used to detect a wide range of microorganisms, including bacteria, viruses, and fungi.

Needlestick Injury refers to the accidental puncture of the skin with a needle or other sharp object, and can result in the transmission of bloodborne pathogens, such as HIV, hepatitis B, and hepatitis C. Needlestick injuries can be prevented through the use of safety protocols, such as safe injection practices and the use of needle safety devices.

Nosocomial Infections are infections that are acquired in a hospital setting, and can be caused by a wide range of microorganisms, including bacteria, viruses, and fungi. Nosocomial infections can be prevented through the use of infection control measures, such as hand hygiene, isolation precautions, and sterilization of equipment.

Occupational Health refers to the health and safety of workers in healthcare settings, and includes measures such as vaccination, screening for infectious diseases, and education and training on infection control and prevention. Occupational health is essential for preventing the transmission of infections among healthcare workers and reducing the risk of healthcare-associated infections.

Outbreak Investigation refers to the process of identifying and investigating outbreaks of infectious diseases in healthcare settings, and includes measures such as surveillance, data collection, and analysis of the causes of the outbreak. Outbreak investigation is essential for developing effective strategies for prevention and control of infectious diseases.

Parasites are microorganisms that can cause a wide range of infections, including malaria, toxoplasmosis, and cryptosporidiosis, and can be spread through contact with contaminated surfaces or vector-borne transmission. Parasites can be resistant to antimicrobial agents, making treatment challenging, and it is essential to use infection control measures, such as hand hygiene and sterilization, to prevent the spread of

parasitic infections.

Personal Protective Equipment (PPE) refers to the equipment and clothing used to protect healthcare workers from the transmission of infectious diseases, and includes items such as masks, gowns, and gloves. PPE is essential for preventing the transmission of infectious diseases and reducing the risk of healthcare-associated infections.

Quarantine refers to the separation of individuals who have been exposed to an infectious disease, but have not yet developed symptoms, from others to prevent the transmission of the disease. Quarantine can be used to prevent the spread of infectious diseases, such as tuberculosis, and can be implemented in a variety of settings, including healthcare facilities and community settings.

Respiratory Hygiene refers to the practices and procedures used to prevent the transmission of respiratory pathogens, such as influenza and tuberculosis, and includes measures such as hand hygiene, mask use, and ventilation of areas where patients with respiratory infections are being treated.

Sterilization refers to the process of eliminating all forms of microbial life, including bacteria, viruses, and fungi, from surfaces or equipment, and can be done using heat, chemical disinfectants, or radiation. Sterilization is an essential step in preventing the spread of infections, and can be performed using a variety of methods, including autoclaving and dry heat sterilization.

Surveillance refers to the ongoing monitoring and analysis of data on infectious diseases, and is essential for detecting and responding to outbreaks of infectious diseases. Surveillance can be used to identify trends and patterns of infectious disease transmission, and can be used to develop effective strategies for prevention and control.

Transmission-Based Precautions are a set of infection control measures designed to reduce the transmission of pathogens that are spread through contact, droplet, or airborne transmission, and include the use of personal protective equipment, such as gowns and masks, and the implementation of isolation protocols.

Vaccination refers to the administration of vaccines to prevent infectious diseases, and is an essential tool for preventing the transmission of infectious diseases. Vaccination can be used to prevent a wide range of infectious diseases, including influenza, hepatitis B, and pneumococcal disease.

Vector-Borne Transmission refers to the transmission of infectious diseases through vectors, such as mosquitoes and ticks, and can include diseases such as malaria, dengue fever, and Lyme disease. Vector-borne transmission can be prevented through the use of insecticide-treated bed nets, insect repellents, and other measures to prevent vector bites.

Ventilation refers to the movement of air through a building or room, and is essential for preventing the transmission of airborne pathogens. Ventilation can be used to reduce the concentration of airborne pathogens, and can be achieved through the use of ventilation systems, such as heating, ventilation, and air

conditioning (HVAC) systems.

Virus refers to a type of microorganism that can cause a wide range of infections, including respiratory infections, gastrointestinal infections, and skin infections, and can be spread through contact with contaminated surfaces, airborne transmission, or vector-borne transmission. Viruses can be resistant to antimicrobial agents, making treatment challenging, and it is essential to use infection control measures, such as hand hygiene and sterilization, to prevent the spread of viral infections.

Waterborne Transmission refers to the transmission of infectious diseases through water, and can include diseases such as cholera, typhoid fever, and legionellosis. Waterborne transmission can be prevented through the use of water treatment and disinfection methods, such as chlorination and filtration.

Zoonotic Diseases are infectious diseases that can be transmitted from animals to humans, and can include diseases such as rabies, influenza, and salmonellosis. Zoonotic diseases can be prevented through the use of infection control measures, such as hand hygiene and personal protective equipment, and through the implementation of animal control measures, such as vaccination and testing of animals.