Infection Control

Understanding infection control is vital in any working environment. Not only does this protect individuals we look after, but also the staff, as well as the public.

Learning Aims

Legislation, regulation, and risk assessment for infection control

The chain of infection and the routes of transmission

Your role and responsibility for decontamination

How to reduce the spread of infection

The consequences of poor infection control

How to manage needles and sharps

This training is divided into 6 modules:

1. The rules and regulations

2. The Chain of Infection and Routes of Transmission

3. Decontamination

4. Personal Protective Equipment and Hand Hygiene

5. Illnesses and Diseases

6. Needles and Sharps

Module 1 - The rules and regulations

Health & Safety at Work etc. Act 1974
under this law all employers must do the following:

- Ensure a safe place of work.
- Provide safe equipment.
- Provide information, training, instruction, and supervision.

As an employee, you also have duties and responsibilities under health and safety law.
You must co-operate with your employer in performing duties under the Act and report any health & safety concerns.

It is everyone's responsibility to make sure all control measures are followed!

RIDDOR -Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013.

These regulations require employers and their staff to report specified workplace occurrences.

COSHH

Control of Substances Hazardous to Health Regulations 2002.

When working with vulnerable individuals, all hazardous substances should be kept in a lockable cupboard.

If you work in domiciliary care then the risk assessment should identify the safest place to keep any hazardous substances, such as cleaning products.

Hazardous Waste Regulations
All countries in the UK have regulations that require hazardous waste to be disposed of correctly.

Codes of Practice

Health and social care providers must also follow national codes of practice for infection prevention and control.

Module 2 - The Chain of Infection and Routes of Transmission

For infection to occur several things must happen.

This is often referred to as the Chain of Infection.

The six links in the chain are:

- Infectious agent is the pathogen (germ) that causes diseases
- Reservoir includes places in the environment where the pathogen lives (this includes people, animals and insects, medical equipment, and soil and water)
- Portal of exit is the way the infectious agent leaves the reservoir (through open wounds, aerosols, and splatter of body fluids including coughing, sneezing, and saliva)
- Mode of transmission is the way the infectious agent can be passed on (through direct or indirect contact, ingestion, or inhalation)
- Portal of entry is the way the infectious agent can enter a new host (through broken skin, the respiratory tract, mucous membranes, and catheters and tubes)

- Susceptible host can be *any* person (the most vulnerable of whom are receiving healthcare, are immunocompromised, or have invasive medical devices including lines, devices, and airways)

Route of transmission

Breaking the chain at the 'mode of transmission' is one of the most important ways to interrupt the spread of infection. This is where infection prevention and control strategies can be most successful. Microorganisms are transmitted in health care settings by four main routes:

•Route 1 - Contact – Contact is the most frequent mode of transmission of health care associated infections and can be divided into direct and indirect

Indirect: involves contact between a person and a contaminated object. This is often a result of unclean hands contaminating an object or environment. The microorganism remains on this surface to be picked up by the next person who touches it.

Direct: involves direct body surface to body surface contact and physical transfer of microorganism between an infected or colonized person to another person by touch.

•Route 2 Droplet - Transmission occurs when droplets containing microorganisms generated during coughing, sneezing, and talking are propelled through the air

• Route 3 Airborne - Airborne transmission of infectious agents occurs either by: Airborne droplet nuclei (small particles of 5 mm or smaller in size) Dust particles containing infectious agents.

• Route 4 Common vehicle Transmission - Applies to microorganisms that are transmitted by contaminated items such as food, water, medications, medical devices, and equipment.

Preventing Infection

To do this means breaking the links in the chain so that an infection cannot spread.

The first line of defence is to keep germs at bay by following good personal hygiene habits.

- Wash Hands well with soap and make sure hands are dried thoroughly.
- Cover your mouth and nose when coughing or sneezing.
- Use alcohol hand gel frequently.
- Stay away from other if you are unwell.
- Use antibacterial spray on any food and work surfaces

Module 3 - Decontamination

'Decontamination is the use of physical or chemical means to remove, inactivate or destroy bloodborne or other pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles, and the surface or item is rendered safe for handling or use'.

Stages of Decontamination

Cleaning:

This is the process that physically removes large numbers of micro-organisms and the organic material they thrive on

Disinfection:

This describes a process that eliminates most micro-organisms on inanimate objects, except for bacterial spores.

Sterilisation:

This refers to a physical or chemical process that completely kills or destroys all forms of viable micro-organisms including spores from an object.

Waste Disposal

Correct waste disposal minimises the spread of infection and reduces the risk of accident and injury to individuals, staff, visitors, and the local community.

Safe disposal is also part of the decontamination process.

Health and social care establishments should follow the 'Safe Management of Healthcare Waste' published by the Department of Health, which gives the relevant guidance for procedures to be implemented.

Laundry

Laundry procedures must have high standards and there should be an in-house monitoring system to ensure all items are laundered correctly.

There will be laundry procedures at your place of work and you need to familiarise yourself with these.

PPE must always be worn when dealing with laundry.

PPE

PPE is often used as the reference for Personal Protective Equipment that will protect the user against health or safety risks at work.

Its purpose is to minimise the risk of infection for the individual and staff.

Module 4 - Personal protective equipment & hand washing

The most common PPE used in health and social care are:

Gloves are not always needed for every day-to-day task, but when used are a barrier to infection.

They must be used in conjunction with hand hygiene.

Disposable aprons must be worn if there is risk of blood or bodily fluids splashing on your clothes. Hands should be washed before and after wearing an apron.

It is the responsibility of every employee to use the PPE equipment provided by the employer, for specific tasks and working activities.

Handwashing

Washing your hands is a vital part of infection control procedures in the workplace.

Handwashing reduces the number of infectious micro-organisms on your hands and reduces the risk of individual sickness and death caused by infection.

Germs can make us unwell. Good hygiene will avoid spreading these germs. Use soap and water to wash your hands after preparing food or using the toilet will kill bacteria.

Alcohol Hand Rub / Hand Sanitiser

This kills or inhibits the growth of transient and resident micro-organisms but it does not remove micro-organisms or soil.
This method can be used when hand washing is not possible or practical, but only if your hands are not visibly soiled with dirt, blood, or other matter.

Module 5 - Illnesses and diseases

An infection occurs when a microorganism enters a person's body and causes harm.

These infectious microscopic organisms are known as pathogens, and they can multiply quickly. Examples of pathogens include:

- bacteria
- viruses
- fungi

Bacteria, viruses, fungi, and parasites are different types of pathogens. They vary in several ways, including:

- size
- shape
- function
- genetic content
- how they act on the body

Viruses are smaller than bacteria. They enter a host and take over cells. Bacteria can survive without a host.

Bacterial infections

Bacteria can live in almost any type of environment, from extreme heat to intense cold, and some can even survive in radioactive waste.

Some examples of bacterial infections are:

bacterial meningitis
pneumonia
tuberculosis
upper respiratory tract infection (although this is usually viral)
gastritis
food poisoning
eye infections
urinary tract infections (UTIs)
skin infections
sexually transmitted infections (STIs)

However, some bacterial diseases can be deadly.

These include:

cholera

diphtheria

dysentery

bubonic plague

tuberculosis

typhoid

typhus

Viral Infections

Viruses are smaller than bacteria and cannot survive without a living host. A virus attaches itself to cells and usually reprogrammes them to reproduce itself. Also, unlike bacteria, most viruses cause disease.

Some diseases caused by viruses include the common cold, AIDS, herpes, and chickenpox.

Treatment for Viral Infections

Because a virus has a protective coating, it is more difficult to kill than bacteria.

It is because of this coating that viral infections cannot be treated with antibiotics.

Viral infections require either vaccinations to prevent them in the first place (like Polio or Measles) or an antiviral drug to treat them.

Fungal Infections

A fungus is a living organism that lives in air, soil, plants, and water.

Yeasts, moulds, and mushrooms are types of fungi.

Fungal infections can include:

Athlete's foot

Thrush

Ringworm

Nail fungus

Parasitic Infections

Definition: A parasitic disease is an infectious disease caused or transmitted by a parasite. Parasites are organisms that live in other organisms or hosts to survive.

Headlice attach themselves to the skull and suck blood.

Fleas also suck blood from the body of the host.

Tapeworms live in the bowel and are likely to be passed on by touching contaminated faeces.

Scabies are a very small mite passed on by skin contact.

Covid 19

COVID-19 is spread through close contact with people who have the virus. People with the virus can spread it even if they do not have symptoms.

When someone with the virus breathes, speaks, coughs or sneezes, they release small droplets containing the virus.

You can catch COVID-19 if you breathe in these droplets or touch surfaces covered with droplets.

It is your employer's responsivity to make sure all staff follow current covid 19 guideline.

Outbreak Plans

Health and care establishments should have an outbreak plan ready, to minimise the number of people affected and the harm done.

Typical outbreaks of infection include:

MRSA, which can survive for several months.

Norovirus, which can survive for up to 7 days.

Covid 19 which can spread very quickly and last for weeks even months

Reporting Outbreaks

If you think that there is an outbreak you must report the matter to the Care Manager or your line manager.
Other people that should then be informed are:
The GP of those that are sick.
The relatives of those that are sick.
Other individuals living or who have been in proximity.
Other staff

Module 6 - Needles and Sharps

Risk Factors:

Whilst the risk is greater in a hospital setting where sharps are more commonly used, there is also risk of infection and injury from sharps in a care home and an individual's home, if the individual is a diabetic or misuses drugs. There should be a risk assessment in place to manage any potential infection or injury from needles and sharps.

Safe Protocols

If you are injured by a needle or a sharp, you should follow these steps:

Wash the area gently with soap and running tap water as soon as possible.

Apply an antiseptic and clean dressing.

Obtain prompt medical advice about the risk of infection from your doctor or local hospital, also confirming the safe disposal of the needle.

To summarise it is everyone's responsibility to follow infection prevention and control guidance to keep everyone safe. Your workplace should keep you up to date with current legislation and training to maintain a safe working environment.

Well Done!

You have completed this training and knowledge assessment for Infection Control