

# Principles of infection control



**ASSIGN  
BUSTER**

Unit ICO1 The principles of infection prevention and control Understand roles and responsibilities in the prevention and control of infections. All care workers have a responsibility to follow the infection prevention and control guidance of the organisation they work for and to work in such a way that the infection risk to service users, themselves and others is minimised. Care workers also have a responsibility to keep up to date and attend infection prevention and control training.

The company or owner of a care home is responsible, under health and safety legislation, for maintaining a safe environment for service users, visitors and care workers alike. Policies and procedures for prevention and control of infection would form part of the health and safety requirements. The manager should have access to advice on infection prevention and control from a suitably qualified and competent individual and should produce an annual report on the systems in place for the prevention and control of infection and how these systems are monitored.

The manager should ensure that appropriate infection prevention and control policies and procedures exist, are readily available, understood by all members of staff and are used within the home. The registered manager should ensure that all care workers have received up to date infection prevention and control training appropriate to their role and that training records are kept.

The manager is also responsible for designating an Infection Prevention and Control Lead for the care home. Understand legislation and policies relating to prevention and control of infections. The impact of healthcare associated

infection is widely acknowledged as a significant issue in all healthcare settings. Current legislation that relates to the prevention and control of infections are The Health and

Social Care Act (2008), The Care Standards Act 2000 and associated Regulations (2002), Health and Safety at Work Act (1974), Environmental Protection Act (1990), Environmental Protection (Duty of Care) Regulations (1991), Control of Substances Hazardous to Health Regulations (1994, amended 2002), Public Health Control of Disease Act (1984), Public Health Infectious Disease Regulations (1988), Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995) and the Food and Safety Act (1990).

The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance came into force in October 2010. It sets out the criteria against which any registered care provider will be assessed by the Care Quality Commission (CQC). The table below is the ‘Code of Practice’ for all providers of healthcare and adult social care on the prevention and control of infections under The Health and Social Care Act 2008. This sets out the 10 criteria against which a registered provider will be judged on how it complies with the registration requirement for cleanliness and infection control.

Not all criteria applies to every regulated activity. | Compliance Criteria |  
What the registered provider will need to demonstrate | | 1 | Systems to manage and monitor the prevention and control of infection. These systems use risk | | | assessments and consider how susceptible service users are and

any risks that their environment and | | | other users may pose to them. | 2 |

Provide and maintain a clean and appropriate environment in managed premises that facilitates the | | | prevention and control of infections. | | 3 |

Provide suitable, accurate information on infections to service users and their visitors. | | 4 | Provide suitable, accurate information on infections to any person concerned with providing further | | | support to nursing/medical care in a timely fashion. | | 5 Ensure that people who have or develop an infection are identified promptly and receive appropriate | | | treatment and care to reduce the risk of passing on the infection to other people. | | 6 |

Ensure all staff and those employed to provide care in all settings are fully involved in the | | | process of preventing and controlling infection. | | 7 |

Provide or secure adequate isolation facilities. | | 8 | Secure adequate access to laboratory support as appropriate. | 9 | Have and adhere to policies, designed for the individual's care and provider organizations that will | | | help to prevent and control infections. | | 10 | Ensure, so far as reasonably practicable, that care workers are free of and are protected from | | | exposure to infections that can be caught at work and that all staff are suitably educated in the | | | prevention and control of infection associated with the provision of health and social care. With regard to local infection prevention and control policies, The Rotherham NHS Foundation Trust has collaborated with NHS Manchester, NHS North Lincolnshire and Doncaster and Bassetlaw Hospitals NHS Foundation Trust to provide a policy that adheres strictly to CQC assessment criteria. The Trust supports the principle that infections should be prevented wherever possible and that effective systematic arrangements for the surveillance, prevention and control of infection are provided within this policy.

Infection control activity is monitored by the Board of Directors, via the Trust's Infection Prevention and Control Assurance Framework. It is a legal requirement that all staff receive training and infection prevention and control as part of their mandatory training. This training is to be undertaken annually and will be delivered through both specific designated training and existing training. The policy includes requirements regarding personal hygiene, dress code and hand washing techniques all of which directly impact upon a health and social care worker's day to day activities and work ethic. The policy also references other relevant policies from the Department of Health and The Trust including policies on how to proceed upon the outbreak of specific infections such as Open Tuberculosis, Scabies, Clostridium Difficile, Chicken Pox/Shingles and Influenza. Mimosa's organisational policy is adapted from the Department of Health's ' Infection Control Guidelines for Care Homes'.

The first part is about Organisation and management, and includes information on The new Code of Practice, Guidance on the prevention and control of infection, Roles and responsibilities of the employer, the manager and employees, Monitoring and reporting of infectious diseases, Surveillance of infections and communicable diseases, Isolation of residents with an infection, Training and education, Occupational health and Risk assessment. The section has information about how infections are spread, the chain of infection, risk factors for infection and the principles of asepsis.

The next section explains to staff about procedures to follow to ensure the best practice in the control and prevention of infection; procedures included are: hand hygiene, correct use and disposal of personal protective

equipment, safe handling and disposal of sharps (mostly relevant to nurses), environmental cleaning, decontamination, waste management, food hygiene, water, laundry and linen management, immunization, antimicrobial medicines management, pathology specimens, pests, pets, visitors, what to do in the event of a death, management of service users in isolation, diarrhoea and vomiting, respiratory infections, skin infections/infestations, blood-borne infections and antibiotic-resistant bacteria such as MRSA.

Finally is a list appendices and local contacts that may be useful in the event of an outbreak of infection or if further advice is needed on the prevention and control of infection in the care home. Understand systems and procedures relating to the prevention and control of infections. A policy is a guiding principle used to set direction in an organization, it should be used as a guide to decision making under a certain set of circumstances.

A procedure is a series of steps to be followed as a consistent and repetitive approach to accomplish an end result. Together they are used to empower the people responsible for a process with the direction and consistency they need for successful improvement of the particular process.

There are particular systems and procedures in place for health and social care workers that when carried out properly can help to prevent and control the contraction and spread of infections. Standard infection control precautions aim to prevent the transmission of microorganisms by direct or indirect contact. Infection Control is a fundamental requirement to ensure safe practice where exposure to potential pathogenic micro-organisms can occur, this can affect staff, services users or visitors. The general principles of these precautions are divided into the following categories: • Hand

hygiene • Protective clothing and equipment (PPE) • Isolation nursing • Disposal of sharps and clinical waste • Laundry management • Environment • Equipment • Exposure to blood and bodily fluids Education of carers, healthcare workers and service users Failure to apply infection control measures favours the spread of pathogens, and health-care settings can act as amplifiers of disease during outbreaks, with an impact on both hospital and community health. If outbreaks hit health care settings without a culture of safe practices, the risk of disruption to health care system can be high. Being prepared and having a culture of safe health care practices that can prevent and control pathogen dissemination is the key to coping with outbreak situations. Infectious outbreaks in care homes can have a significant impact on infection rates and mortality rates of the residents.

Service users in a care home are particularly susceptible to the spread of infection due to a number of factors; the elderly tend to have a weaker immune system and are therefore more vulnerable to infections, because in a care home there are a large number of people living in close proximity this contributes to a rapid spread of infections and also the temperature in care homes tends to be at a constant mid-range which is usually within the ideal range for the multiplication of bacteria and pathogens and so also increases the risk of infection. With all this taken into account the risk of an outbreak is continually just around the corner. The seriousness of an outbreak of infection on the individual service user could be potentially fatal.

Service users are generally resident in a care home due to failing health and/or increased vulnerability, the impact of an outbreak of infection would depend upon other factors including the person's other health issues and the

effectiveness of staff and the company's policies and procedures for minimizing the spread and longevity of the outbreak. As an organization, the potential impact of an outbreak of infection could be catastrophic, resulting in the home being closed down. Sometimes the outbreak of infection may be inevitable due to the high risk factors that are present in any care setting; but it is the way in which the situation is dealt with that may decide whether the outcome is controlled effectively or allowed to spiral out of control with devastating consequences.

Adhering to procedures for the correct use of personal protective equipment, correct hand washing techniques and disposal of waste products, procedures and facilities for isolating individuals included in an outbreak and in turn isolating the infection, when used in conjunction with one another would all be effective in minimizing the spread of an outbreak of infection. Understand the importance of risk assessment in relation to the prevention and control of infections. The term 'risk' is often confused with the term 'hazard'. A hazard is defined as something that can cause harm, e. g. electricity, chemicals, working up a ladder, noise, a keyboard, a bully at work, stress. A risk is the probability, high or low, that any hazard will actually cause somebody harm.

Risk of infection in a care setting is potentially rather high. This is due to many factors such as a large number of people living in close proximity, increased vulnerability of those people because of their age, lower immunity, other health issues – sometimes chronic conditions such as diabetes or cancer, food hygiene, laundry, clinical waste, blood and bodily fluid spillages. Infection can be transmitted in various different ways. It may spread through



direct contact with bodily fluids from an infected person, whereas some micro-organisms depend on people animals or equipment to transmit them from one thing to another. The routes of transmission are:

- Inhalation – via mouth or nose. (influenza, measles and tuberculosis)
- Inoculations – via the skin by accidental injury, injection, bites (hepatitis A/B and malaria)
- Ingestion – via the gastro-intestinal tract with contaminated food or water (salmonella, polio, rota virus and Norwalk)
- Sexual Intercourse – via genital tract from one partner to another during sexual intercourse

The most common routes of transmission in care homes is by close contact with another person and incorrect hand washing techniques; you should therefore be particularly vigilant in following company policies and procedures. Some equipment used can be the source of infection, such as unclean commodes and wheelchairs. Florence Nightingale believed that cleanliness was vital to recovery; her ideas instigated improved sanitary conditions in the treatment of soldiers during the Crimean War.

The ideas she had all those years ago are even more important today. We need to ensure high standards of cleanliness are maintained at all times to prevent and control the spread of infections. A risk assessment is simply a careful examination of what, in your workplace, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. Workers and service users have a right to be protected from harm caused by a failure to take reasonable control measures. Employers are legally required to assess the risks in their workplace so that they can put in place a plan to control the risks.

There are five simple steps to carrying out a risk assessment:

- Step 1 – Identify the hazards
- Step 2 – Decide who might be harmed and how
- Step 3 – Evaluate the risks and decide on precautions
- Step 4 – Record your findings and implement them
- Step 5 – Review your assessment and update if necessary

Risk assessments are important as they reduce the risks of accidents and ill health to staff, service users and visitors that could be very costly both physically and financially. All of this is a legal requirement. An employer is obliged to keep workers and the public safe as far as “reasonably practicable”, although the law does not demand the eradication of all possibility of risk.

Understand the importance of using Personal Protective Equipment (PPE) in the prevention and control of infections

Personal protective equipment, or PPE, as defined by the Occupational Safety and Health Administration (OSHA), is “specialized clothing or equipment, worn by an employee for protection against infectious materials.” Employers must provide their employees with appropriate PPE and ensure that PPE is disposed or, if reusable, that it is properly cleaned or laundered, repaired and stored after use. It is the responsibility of an employee to use PPE in accordance with training and to report any loss or defect immediately. The employee also has a responsibility to return PPE to its place of storage or to dispose of correctly after use. All employees have a responsibility to ensure they:

- Use all PPE provided properly, whenever it is required
- Attend and comply with training, instruction and information
- Check the condition of their PPE
- Store, clean and maintain their PPE
- Report losses, defects or other problems with PPE to their manager
- Report any personal conditions that may affect their ability

to use PPE The protection of healthcare personnel from infectious disease exposures in the workplace requires a combination of controls, one of which is the use of PPE. It is very important for protecting healthcare workers from infection transmission. All of the PPE listed here prevent contact with the infectious agent, or body fluid that may contain the infectious agent, by creating a barrier between the worker and the infectious material. • Gloves protect the hands, • Gowns or Aprons protect the skin and/or clothing, • Masks and respirators protect the mouth and nose, • Goggles protect the eyes, and • Face shields protect the entire face. There are four key points to remember about PPE use. First, don it before you have any contact with the service user, generally before entering the room.

Once you have PPE on, use it carefully to prevent spreading contamination. When you have completed your tasks, remove the PPE carefully and discard it in the receptacles provided. Then immediately perform hand hygiene before going on to the next service user. In addition to wearing PPE, you should also use safe work practices. Avoid contaminating yourself by keeping your hands away from your face and not touching or adjusting PPE. Also, remove your gloves if they become torn and perform hand hygiene before putting on a new pair of gloves. You should also avoid spreading contamination by limiting surfaces and items touched with contaminated gloves.

To remove PPE safely, you must first be able to identify what sites are considered “ clean” and what are “ contaminated. ” In general, the outside front of the apron and outside front of the goggles, mask, respirator and face shield are considered “ contaminated,” regardless of whether there is visible

soil. Also, the outside of the gloves are contaminated. The areas that are considered “ clean” are the parts that will be touched when removing PPE. These include inside the gloves; inside and back of the gown or apron, including the ties; and the ties, elastic, or ear pieces of the mask, goggles and face shield. The sequence for removing PPE is intended to limit opportunities for self-contamination.

The gloves are considered the most contaminated pieces of PPE and are therefore usually removed first. The location for removing PPE will depend on the amount and type of PPE worn and the category of isolation a patient is on, if applicable. If only gloves are worn as PPE, it is safe to remove and discard them in the patient room. When a gown or full PPE is worn, PPE should be removed at the doorway or in an anteroom. Respirators should always be removed outside the patient room, after the door is closed. Hand hygiene should be performed after all PPE is removed. Removal of gloves – Using one gloved hand, grasp the outside of the opposite glove near the wrist. Pull and peel the glove away from the hand.

The glove should now be turned inside-out, with the contaminated side now on the inside. Hold the removed glove in the opposite gloved hand. Slide one or two fingers of the ungloved hand under the wrist of the remaining glove. Peel glove off from the inside, creating a bag for both gloves. Then discard in a yellow bag in the sluice room and perform hand hygiene routine. Infection control guidelines outlining standard principles for using PPE include the epic guidelines (2001) and the NICE clinical guidelines (2003). You could also refer to the ICNA guidelines Protective clothing: Principles and Guidance

and A Comprehensive Glove Choice (both published in 2003) for more detailed information.

The guidelines are based on current available evidence and apply to all healthcare workers. They are underpinned by the Health and Safety at Work Act (1974) and more recent legislation: The Management of Health and Safety at Work Regulations (1992), Personal Protective Equipment at Work Regulations (HSE 1992) and the Control of Substances Hazardous to Health (COSHH) Regulations (2002). Understand the importance of good personal hygiene in the prevention and control of infection It may seem simple to apply the basic principles of personal hygiene, but nothing is that obvious, especially on a national or even worldwide scale. In fact, the perception of hygiene and the way it is applied vary considerably between individuals.

It is therefore essential to present in a uniform way information on how to behave in order to integrate the concept of personal hygiene into a hygiene program for life in general. The four key principles of good personal hygiene are Hand Hygiene, Oral Hygiene, Nasal Hygiene and Personal Hygiene. A dirty body is a hotbed for developing germs. Dust, sweat and other secretions, and warmth are all factors which encourage germs to multiply. A shower or bath with effective cleansing products should therefore follow any physical activity. Everyday secretions occur even without physical effort, and are enough to encourage germs. Hand hygiene is the single most important method of preventing and controlling infection.

The hands normally have a “ resident” population of micro-organisms. Other micro-organisms are picked up during every-day activities, and these are

termed “ transient” organisms. Many infection control problems are caused by these transient organisms. Hand washing with soap (preferably anti-bacterial) & warm water should remove these transient organisms before they are transferred to surfaces, another service user or to a susceptible area on the same service user. It is important that hand washing is carried out correctly to prevent the spread of infection. Good Practice

- Fingernails should be kept clean and short
- Do not wear false nails or nail polish
- Jewelry (including a wristwatch), except a plain wedding band, should not be worn
- Breaks anywhere on the skin should be covered by a waterproof dressing (preferably blue or green to aid detection if damaged or lost)
- Medical advice should be sought for skin damage caused by other medical conditions such as eczema or psoriasis.
- All healthcare staff should be ‘ bare below the elbow’

Hands should be washed:

- After visiting the toilet
- Before handling food
- When the hands are visibly soiled
- Before a ‘ clean’ procedure
- After a ‘ dirty’ procedure even if gloves were worn
- Between care episodes for one service user
- Between different service users
- After coughing or sneezing into hands

Equipment needed for effective hand washing are a hand washing basin, liquid soap (preferably anti-bacterial), disposable paper towels and a foot operated pedal bin.

Hand creams can be applied to care for the skin on hands, however, only individual tubes of hand cream should be used or, preferably, hand cream from wall mounted dispensers. Creams used should not affect the action of hand cleaning solutions being used or the integrity of gloves. Communal tubs, in particular, should be avoided as these may contain bacteria over time. Perfumed soaps, or other solutions, might cause skin problems for

some if used frequently. Therefore, this should be discussed with Occupational Health services and alternatives sought and made available. Report any skin problems to Occupational Health or GP in order that appropriate skin care can be undertaken and the risks of harbouring micro-organisms while providing care for others can be avoided.