

Introduction

Where a business works with people who are either unwell, elderly or children; their staff are at higher than normal risk of infection. This is also true when employees travel abroad. In addition where a business provides treatment, residential care or accommodation for such people there is a potential for infection by “superbugs” such as Clostridium Difficile, MRSA, Human Immunodeficiency Virus (HIV) and Hepatitis B. The business must therefore take steps to reduce the risk of cross-infection so that employees do not fall ill and so that the business is not disrupted by outbreaks of infectious illness. In the worst case cross-infection could result in the death of an employee or a client. This guidance note considers human contact infection, but in some cases you may also need to consider the risk of infection from other sources such as animals.

The mechanism by which infection spreads can be represented as a chain. The links of the chain are a source of infection, a method of transmission, and a person to receive an infection, often referred to as a host. Breaking the chain will stop the spread of or reduce the risk of infection.

In the workplace there are four main sources of infection to be considered:

- respiratory discharge – coughs and sneezes;
- direct skin contact;
- blood and bodily fluids such as saliva; and
- waste products – vomit, urine, faeces.

At work, infection can transfer to a new host in a number of ways. While some micro-organisms have a single mechanism, others use a variety. The routes of infection are;

- transfer by hand – putting contaminated hands and fingers (and pens etc.) into the mouth, eyes, nose – after touching contaminated people, fixtures or fittings;
- splashes of blood and other body fluids onto mucous membranes i.e. into the eye, mouth and nose;
- breathing in infectious aerosols from coughs and sneezes;
- broken skin in direct contact with an infectious agent; and
- injuries that penetrates the skin, for example a contaminated needle or other instrument.

The health of the host can also affect the transmission of an infectious illness. Some people may be immune to an infection because they have been immunized or

because they have previously suffered from the illness and acquired natural immunity. In contrast there will be others with reduced immunity that are at a greater than normal risk of infection. This may be because they have a pre-existing illness, are undergoing medical treatment or have a reduced immunity on account of their age.

When dealing with infection and infection control it is important to remember that people exposed to the risk of infection may include those who only make the occasional visit to the workplace. Cleaners, contractors, maintenance staff, temporary staff and placement workers e.g. students and trainees all fall into this category. Visitors to the premises may also be at risk.

In our experience the issues that most concern healthcare workers are exposure to the risk of infection from HIV and Hepatitis. Many are unclear about the risks and how the infections are spread.

HIV infection may, but does not always lead to the development of AIDS (Acquired Immune Deficiency Syndrome). Many people believe that HIV is extremely contagious but that is not the case. Normal work and social contact with an infected person is safe for both you and others. Infection is not spread through the air or by touch, nor is there any danger from handling objects which have been used by an infected person, or from sharing an office or washroom. There is a risk of infection being spread, where there is direct contact with blood or other bodily fluids of infected individuals particularly where the blood or bodily fluids can enter a new host through an open wound.

Hepatitis B is a serious liver disease caused by a virus known as HBV; it can affect people in different ways ranging from no apparent symptoms to flu and nausea like symptoms and in some acute cases may lead to severe liver damage. In the workplace, anyone that comes into direct contact with the blood or other bodily fluids of an infected person is placed at risk. HBV can survive on surfaces e.g. tables and chairs for up to seven days at room temperature. Research has indicated that it is theoretically possible for the virus to survive in the air but no evidence of true airborne infection has been recorded. HBV is many times more infectious than HIV.

Hepatitis C is also a serious cause of damage to the liver. It is a viral infection found only among humans and which is spread by blood to blood contact. Immediately after infection there may be a short period of feeling unwell, with some rare cases of jaundice, after which there is recovery to normal health. Most people who are infected by hepatitis C have no symptoms for years or even decades; but around 75% of people who become infected will develop chronic (long-term) infection. In these cases Hepatitis C can lead to cirrhosis (scarring) of the liver, primary liver cancer or liver failure.

The other big issue in healthcare, particularly primary care, is the risk to patients and service users from nosocomial infections acquired in healthcare premises. They are usually related to a procedure or treatment used to diagnose or treat a service user or patient. Most can be prevented by close attention to infection control policies and procedures. What makes these infections so troublesome is that they occur in people whose health is already compromised by the condition for which they first sought treatment. The two major causes of nosocomial infection are MRSA (Methicillin Resistant Staphylococcus Aureus) and Clostridium Difficile (C.difficile). Both can be controlled by good hygiene and infection control procedures; thorough hand washing and drying between caring for people is imperative to reducing the risk of cross-infection.

Legal Requirements

Employers have a legal duty to ensure that their workforce and other people at risk from their activities are not exposed to foreseeable risks of infection whilst at work.

Businesses operating in the health care sector have to be registered with the regional body responsible for the quality of patient care. In England, for example, this is the Care Quality Commission (CQC). Businesses will need to address compliance with health and safety legislation in order to meet the essential standards of quality and safety set by these regional bodies. But note that they require no measures and no actions that are different to those required to meet duties imposed by health and safety legislation.

To meet the legal requirements and satisfy the quality of care requirements it is necessary to identify foreseeable risks of infection, and to develop a policy for the control of infection which leads to the assessment and control of those risks. These infection control risk assessments should normally be written and stored in your safety management file, or saved into the BusinessSafe Online computer application. In some cases an employer may have to consult with an occupational health practitioner but in every case it will be necessary to consult with employees.

Employees need to know about the risks and the control measures; in many cases they can help the employer by identifying risks that may not have been foreseen.

Infection Control Policy

Every health care provider should develop an infection control policy that reflects the requirements of the quality standards and any specific guidance published by official and professional bodies, such as NICE and the RCN. Dental practices, for example, would be expected to reflect the essential and best practice requirements of Health Technical Memorandum 01-05 – Decontamination in primary dental care premises.

The Infection Control Policy needs to cover all aspects of infection relevant to the business. It will range from staff training, personal hygiene (hand-washing, personal protective equipment, masks and clothing), to the recognition of service users carrying or at high risk of infection, to the cleaning of the premises, the cleaning and sterilisation of instruments, the maintenance of equipment and the keeping of records. The policy should also cover care in the community where that is a part of your business activity. The policy will also need to consider how clinical waste is to be safely disposed; see Guidance Note 3-18 for detailed advice.

Control measures

The first step in controlling risk is to consider whether it is possible to stop employees being exposed to a source of infection. This is not always possible, particularly in a healthcare business so the emphasis must be on control. Even where it is not possible to completely eliminate the risk it may be possible to change work methods so that the number of employees potentially exposed to a source of infection is reduced. And by modifying the way hazardous waste is packed and handled the number of people exposed along the line can be reduced and the risks minimised.

Where exposure cannot be prevented the risks from exposure must be adequately controlled to a level that won't harm people's health. The control measures must take account of the fact that infection can be the result of exposure to very small numbers of micro-organisms and that micro-organisms can grow and multiply.

In some situations it will be appropriate for staff to be vaccinated against organisms that are a particular risk in the workplace, e.g. hepatitis or tuberculosis. Further and better advice will be available from regional health authority communicable disease units or regional public health and health protection agencies.

Control of micro-organisms in the workplace should start with good general hygiene principles and practices. These cover;

Hand hygiene

- Use mild liquid soap, applied to wet hands. Wash the hands by rubbing together under running water for about 15 seconds. If the hands are not visibly clean, wash them again.
- Use additional measures such as hand disinfection using anti-bacterial hand rubs and gels where appropriate;
- If appropriate use hand cleaning in combination with disposable gloves;
- Wash hands (wrists and arms too if necessary) at key stages of treatment including;
 - before and after each treatment session;
 - before and after the removal of PPE;

- after washing instruments;
 - before handling clean instruments.
- Wash hands (wrists and arms too if necessary) before eating, drinking, smoking, using the telephone, taking medication, applying make-up, inserting contact lenses;
- Always dry hands using disposable paper towels to reduce the risk of recontamination or spreading contamination
- Frequent hand washing could lead to eczema or dermatitis so water based hand creams should be provided to help avoid chapped or cracking skin. Wall mounted dispensers are the preferred option.
- Finger nails should be kept clean, short and smooth.
- Rings, bracelets and wrist watches should not be worn by staff undertaking clinical procedures.
- Wash-basins provided for hand-washing in a clinical environment should not have a plug or an overflow and should not have a u-bend directly under the discharge. Taps should always be lever or sensor operated and not flow directly into the discharge. A cleanable poster showing a six or eight step washing procedure should be displayed above every clinical wash-hand basin.

Personal Protective Equipment

- A part of their infection control policy employers will need to consider what personal protective equipment (PPE) will be required and when it to be used. The arrangements will need to consider when it is to be worn and when it is to be changed.
- PPE includes disposable clinical gloves, household gloves, plastic disposable aprons, face masks, eye protection and footwear.
- When PPE is provided suitable facilities should be provided for its disposal, cleaning and storage as required.
- Consideration must also be given to the cleaning and decontamination of clothing and uniforms that may have become contaminated.

Surface and Equipment Decontamination

- It is essential that surfaces and equipment used in the decontamination of clinical and medical care equipment are carefully cleaned before and after each decontamination cycle.
- To assist cleaning surfaces should be impervious, continuous and free from damage and abrasion.
- Floor coverings too should be continuous, jointless and also non-slip. Coving should be fitted between wall and floor so that dust and dirt cannot accumulate in crevices and corners – joints should be welded or sealed.

- Local protocols for the cleaning and decontamination of premises and equipment should be in place.

Water lines

- Water lines are a potential source of Legionella bacteria. They need to be considered as part of the infection control policy. Specific detailed information and guidance can be found in Guidance Note 5-12.

Staff qualification, information and training.

- Healthcare and nursing staff with recognised qualifications will have learnt the essential requirements for health care during their training. It is however important that they are made aware of local policies, arrangements and expectations.
- New starters must receive induction training which includes local arrangements for infection control.
- Staff must be given a route by which they can raise questions and issues regarding infection control with their managers. It may be worth including them or their representatives in the development of the infection control policy or at its review since they bring practical knowledge and consideration to the discussions.
- Staff should always be informed of changes to the infection control policy and receive routine refresher training in its content and implementation.

Other general infection control measures.

- cover all new and existing cuts and grazes with waterproof dressings and or gloves before starting work. If cuts and grazes occur, wash immediately with soap and running water and apply a waterproof dressing;
- Taking rest breaks and meal breaks away from the main work area;
- Wearing appropriate protective clothing to stop personal contamination, e.g. waterproof or water-resistant protective clothing, plastic aprons, gloves, rubber boots disposable overshoes.
- Ensure its safe disposal or cleaning;
- Avoiding hand-mouth or hand-eye contact – don't put pens/pencils in mouths;
- Using disposable equipment wherever possible;
- Regular washing and disinfection of floors, surfaces, door handles and furniture;
- Disinfecting work surfaces contaminated with blood or bodily fluids;
- Using disposable rubber gloves and aprons when mopping up spillages of blood or other bodily fluids with paper towels;
- Disposing of all contaminated equipment and waste safely;

- Controlling the risk of work activities that could result in a puncture wound to the skin by avoiding the use of sharp objects, e.g. needles, glass, metal, knives etc; but if this is not possible, safe working practices for handling and disposal of sharps should be used and appropriate protective equipment provided;
- Protecting the eyes and mouth with a visor or goggles/safety glasses and a mask if the work activity could result in the splashing of any body fluid;
- Taking steps to avoid the generation of aerosols work by altering the work activity, e.g. using a vacuum rather than a brush; or take measures to contain aerosols. If this is not possible, appropriate respiratory protective equipment should be used;
- Vaccinating employees appropriately;
- Implementing a needle stick policy to cover blood-borne viruses e.g. HIV, where necessary.

The Infection Control policy and procedures will not be effective unless implemented and carefully explained to staff. All workers, direct and indirect, should receive appropriate information to ensure that they have sufficient information, knowledge and understanding of the risks so that they do not place themselves or others at risk when carrying out their duties.

In addition to the measures listed above it may also be appropriate to consider the following matters and include them in policies, training and instruction;

- If the lips, eyes, mouth, tongue or broken skin come into contact with blood or other bodily fluids they should be washed with clean, cold tap water and medical advice sought.
- When treating a wound, any person who is suffering from a skin disease, chapping or an open or unhealed wound of the hand which cannot be covered with a waterproof dressing should wear disposable gloves. After use, these gloves should be washed in soap and water before removal from the hands and then disposed of. The hands should then be washed again with soap and water.
- Potentially infected materials should be isolated e.g. clinical waste, soiled bedding and soiled clothes. These should be identified and handled properly, including the safe disposal and incineration of all clinical waste, syringes and needles.
- In order to control the spread of infection to employees and throughout the premises 'barrier' nursing procedures should be adopted and the affected service user isolated.
- Domestic, catering and laundry employees should not be forgotten during the development of infection control policies, their implementation and workforce training.

- All workers should receive training in infection control procedures, hand washing protocols, aseptic procedures, disinfection and decontamination procedures and the use and safe disposal of personal protective equipment.

Cleaning procedures will help prevent any cross-contamination. Mops and cloths used for cleaning should be colour coded to prevent cross contamination. The recommended standard colours are:

- **Green** - Kitchens only, never used elsewhere;
- **Blue** - General areas e.g. offices;
- **Yellow** - Washbasins, washroom surfaces;
- **Red** - High risk areas e.g. toilets, washroom floor.

Cleaning equipment (cloths, mops etc.) must be kept clean and dry between uses. The following is the recommended system for maintaining cleaning equipment in a care setting:

- All mop heads should be detachable;
- Wash in hot soapy water;
- Rinse and wring out as much as possible;
- Invert mop to dry completely;
- If used in a clinical setting, launder daily. Otherwise launder weekly;
- Do not leave mop head soaking in water or disinfectant.

Detailed and authoritative information on infection control has been published in the UK by the Advisory Committee on Dangerous Pathogens, and by NICE (the National Institute for Clinical Excellence) which can be downloaded from www.hse.gov.uk and www.nice.org.uk This guidance is recognised as authoritative in Ireland and other jurisdictions. It will help develop local rules and procedures.

Whatever measures an employee takes and whatever the systems of work they introduce none will be effective unless the workforce is fully informed and involved. The importance of training in providing information, knowledge and understanding cannot be overemphasised. Keep a record of any **Health and Safety Training** or briefing with your Safety Records.

If personal protective equipment is identified as necessary as part of an infection control system, keep records of its issue and receipt by workers with your Safety Records or in personnel files. See also **Guidance Note 1-17 Personal Protective Equipment**.

Reporting cases of infection

Some cases of occupational ill-health are reportable to the Enforcing Authorities for Health and Safety where the worker is unable to work for more than 7 days (3 in Ireland and Northern Ireland) and the employer has received a medical or sick note stating that the infection is work related. See our **Guidance Note 1-3 – Accident, Incident and Ill Health Reporting**.

The care quality authorities also require to be notified about the death or serious injury to service users, events that prevent a service form being run safely and properly, drug abuse and others too. Please consult your care quality authority's guidance for a full list and details of their reporting arrangements.

Further advice and guidance on any of the issues associated with infection control or the information contained in this guidance note is available from our 24 Hour Advice Service.

- In Great Britain call 0844 892 2785 or 0844 892 2772 option 2;
- In Northern Ireland call 0844 892 2786 option 2; or
- In the Republic of Ireland call 01 855 5050 option 2.

Guidance Notes are regularly revised and updated to reflect current best practice and take account of revised standards or legislation. The latest version of every Guidance Note is always available at www.peninsula-online.com.