

# Facilitator's Guide



## STANDARD PRECAUTIONS in the Irish healthcare setting HOSPITAL EDITION 2008

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Infection Prevention Society  
Incorporating the ICNA

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Due to an increasing occurrence of healthcare associated infection in recent years, reducing the risk of infection is one of the most important challenges facing the health services in Ireland. Many factors contribute to this situation including high bed occupancy as well as infrastructural and systemic problems.

The majority of these factors are outside the control of individual healthcare workers. However, they have a role to play and require training in the areas of infection prevention and control and related policies and practices.

The Health Management Institute of Ireland (HMI), a professional body for managers, in cooperation with the Irish Branch of the Infection Prevention Society, has developed this training DVD in response to this need.

The foundation of any training on infection prevention and control must be based on nationally agreed guidelines developed by experts in the field. This standard precautions training DVD is developed using the current national guidelines and is aimed at all healthcare workers involved directly or indirectly in patient care. We hope that this DVD will help you play your part in developing a safer healthcare environment for patients, staff and visitors.

Welcome to the Health Management Institute of Ireland's 'Standard Precautions in the Irish healthcare setting' training DVD.

### 'Standard Precautions in the Irish healthcare setting' Training DVD 2008 Edition

This is a DVD video which will work with any DVD player and television, portable DVD player or DVD enabled computer. This DVD is supplied in a DVD case. It is advisable to keep it in the case when not in use as scratches or fingerprints may render the DVD unreadable.

### 'Support Materials' CD-ROM

#### Facilitator's Guide

The facilitator's guide is available in Adobe Acrobat format (guide.pdf) on the 'Support Materials' CD-ROM which is also supplied in the DVD case.

The facilitator's guide supports Infection Control Nurses and Trainers responsible for the ongoing training of healthcare staff in the area of standard precautions for infection control. In the case of tutor-led group training sessions, the guide offers suggested time frames and discussion topics for both pre and post DVD viewing.

#### Participant Workbook

A copy of the workbook and answer sheet is included within the facilitator's guide. It is also available in Adobe Acrobat format (workbook.pdf) on the 'Support Materials' CD-ROM.

The workbook includes a series of questions based on the four main modules of the DVD. Completing the workbook enhances participant learning and also acts as a training record for compliance purposes.



#### Introduction

The focus of this training DVD is the prevention and control of healthcare associated infection in the hospital environment. It was designed to facilitate both tutor-led group training sessions and individualised self-paced learning. The guide supports Infection Control Nurses and Trainers facilitating group training sessions.



#### Timing

The DVD is comprised of five modules. To view the five modules will take approximately 50 minutes. The guide provides suggested timings for each module in the case of a facilitated group training session.



#### Resources required for facilitated training

- Standard Precautions in the Irish healthcare setting training DVD
- Facilitator's Guide
- Sufficient copies of participant workbook
- DVD player and television or DVD enabled computer and/or projector
- Flip chart



#### Process

Facilitating a group training session requires a number of key processes:

- Introduction to the module
- View the appropriate module
- Ask questions to encourage discussion
- Facilitate the discussion
- Reaffirm key learning points

## Module 1 Infection Prevention & Control

# 1



### Key Learning Points

Having completed this module participants will know:

- What a healthcare associated infection is
- The main types of healthcare associated infection
- Why there has been a rise in healthcare associated infection in Ireland
- How the spread of infections occur
- Why the need to control infection
- Their role in infection prevention and control



### Timing

This module will take approximately 20 minutes to complete.



### Process

Use the following process as a guide:

- 5 minutes for pre DVD viewing discussion on the subject
- 10 minutes to view the DVD module
- 5 minutes for a post DVD viewing discussion



### Suggested Facilitation Discussion Questions

Use some of the questions below to encourage group discussion:

#### Pre DVD Viewing

1. What do you know about healthcare associated infection?
2. On a scale of 1-10 how would you rate your knowledge of healthcare associated infection?
3. What do you think the most common healthcare associated infections are?
4. Why do you think we need to control healthcare associated infection?

#### Post DVD Viewing

1. What learning points did you take from this module of the DVD?
2. Where there any surprises in any of the content that you read or heard?
3. Has your knowledge and understanding of healthcare associated infection increased?

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## Introduction

On completion of this module you will know:

- What a healthcare associated infection is
- The main types of healthcare associated infection
- Why there has been an increase in the occurrence of healthcare associated infection in Ireland
- How the spread of infections occur
- Why the need to control infection, and
- Your role in infection prevention and control

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## Healthcare Associated Infection

Healthcare associated infection is defined as, an infection that arises in a patient 48 hours or more after admission to hospital and which was not present or incubating on admission.<sup>1</sup> It has become more prominent in the recent years due to the complexity of patients seeking care, and the complexity of healthcare itself.

The 3rd prevalence survey of healthcare associated infection in acute hospitals published in late 2006 showed an overall rate of healthcare associated infection for Ireland of 4.9%.<sup>1</sup> The survey acknowledged that healthcare associated infection is increasingly recognised as an important cause of patient morbidity and mortality and contributes significantly to healthcare costs.

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## Types of Healthcare Associated Infection

The 3rd prevalence survey of healthcare associated infection showed on analysis a percentage breakdown of the main types of healthcare associated infection. On closer examination of these figures the most common healthcare associated infections according to anatomical site are:<sup>1</sup>

- Urinary tract infections which occurred in 1.1% of patients. Of these infections 56.2% were catheter-related and 7.2% were caused by meticillin-resistant staphylococcus aureus also known as MRSA.
- Surgical site infections occurred in 1.1% of patients and of these 8.4% were caused by MRSA. The rate for non-implant surgery was 5.1% and for implant surgery,

- for example, the insertion of a prosthetic knee, was 3.7%.
- 0.86% of patients developed pneumonia. In 18% of cases the pneumoniae was ventilator-related and in 6% the infecting organism was MRSA.
- Finally, primary blood stream infections or bacteraemia occurred in 0.5% of patients and in 13.5% of these patients this was due to MRSA.

The common causative organisms implicated in healthcare associated infection are:

- Staphylococcus aureus, both meticillin-sensitive staphylococcus aureus (MSSA) and meticillin-resistant staphylococcus aureus (MRSA)
- Gram-Negative Rods for example E. coli
- Streptococcus pyogenes
- Others such as Enterococci, Candida, Staphylococcus epidermidis

Some commonly known causative organisms with high profiles are:

- Meticillin-resistant staphylococcus aureus or MRSA
- Clostridium difficile
- Vancomycin resistant enterococcus
- Norovirus

A significant share of healthcare associated infection in many patient groups can be endogenous. This is where a vulnerable person becomes infected with their own usually harmless bacteria. The main focus of this DVD and the associated precautions are the prevention and control of cross infection.

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## The Increased Occurrence of Healthcare Associated Infection

The increased prominence of healthcare associated infection over the last number of years can be attributed to a number of different factors including:<sup>2</sup>

- The emergence of antimicrobial resistance, similar to that seen in MRSA
- The emergence of new infections, for example SARS
- The re-emergence of existing infections, such as Tuberculosis
- Technical advances, in terms of complex treatments and

- invasive devices
- The increased use of immuno-suppressive therapies
- Patient dependency, in particular our older population
- Changes in staff skill mix
- The lack of emphasis on infection control in education and training of healthcare workers

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Understanding the infection process is best explained through a model known as the chain of infection.<sup>3</sup> It is a circle of links each representing a component in the cycle. The links are:

- Infectious agent
- Reservoir
- Means of exit
- Route of transmission
- Means of entry
- Susceptible host

Each link must be present and in sequential order for an infection to occur. We can use the following practical example to examine the chain of infection in action.

An elderly patient, hospitalised with a gastrointestinal disorder, was on bed rest and required assistance for activities of daily living. The patient had frequent uncontrollable diarrhoea and the healthcare worker provided excellent care to maintain cleanliness and comfort. Following one episode of cleaning the patient and changing the bed linen, the healthcare worker immediately went on to a second patient to provide care, without firstly decontaminating their hands.

The first link in the chain is an infectious agent. This is a microbial organism with the ability to cause disease. Infectious agents are bacteria, viruses, fungi, and parasites. The infectious agent in our example is *Clostridium difficile*.

A reservoir is a place within which micro-organisms can survive and reproduce. For example, micro-organisms survive in human beings, animals, and on inanimate objects such as table tops, and doorknobs, however, not all micro-organisms can survive on or in inanimate objects. The reservoir in this case is the

gastro intestinal tract of the elderly patient.

The means of exit is a place that provides a way for a micro-organism to leave the reservoir. This can be through the nose or mouth when someone sneezes or coughs. Micro-organisms can also exit the body in faeces when there is an infection in the gastrointestinal tract. In this case *Clostridium difficile* exited the body in faeces. This is the means of exit.

The healthcare worker then removed contaminated linen from the bed. The *Clostridium difficile* micro-organism contaminated their hands. The healthcare worker then provided morning care to another patient without having decontaminated their hands. This provided a route of transmission.

The route of transmission is the method of transfer by which the micro-organism moves or is carried from one place or person to another. The hands of the healthcare worker may carry micro-organisms from one person to another. This is much more likely to happen if the healthcare worker moves from one patient to another or moves from working on an item of equipment to a patient without undertaking correct hand hygiene practices.

The healthcare worker, who's hands were contaminated with *Clostridium difficile* had direct hand contact with the second patient. This allowed for a means of entry.

The means of entry is an opening allowing the micro-organism to enter the host. Entry points may include body orifices, mucus membranes, or breaks in the skin. Entry points can also be provided by tubes placed in body cavities, such as urinary catheters, or from punctures produced by invasive procedures such as putting in an IV line to provide intravenous fluid replacement.

The final link in the chain is a susceptible host. This is a person who has, for example, a low resistance to infection due to a weakened immune system.

The second patient, in our example, had a chronic illness necessitating complete bed rest and would be considered a susceptible host. Within 2-3 days the second patient developed

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diarrhoeal symptoms similar to that of the first patient.

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The spread of healthcare associated infection has a serious impact on both Health Service resources and the patients who require the services.

For the patient, it may mean a longer absence from work and result in possible financial hardship for family and relations. They may also experience an increased risk of more serious illness and sometimes increased risk of death.<sup>4</sup>

For the Health Services, it is estimated that each patient with a healthcare associated infection will spend 2.5 times longer in hospital and will cost €4,500 more to treat. It may also lead to an increase in community costs on discharge.<sup>4</sup>

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The earlier example shows just how easy it is to spread infection within the healthcare environment.

Playing your part will ensure that healthcare associated infection can be prevented and controlled. Everybody has a role to play. You are part of a team that works to ensure a safe environment for patients, staff and visitors. It is vital that each member of the team in every healthcare setting is aware of their role and responsibilities in relation to preventing and controlling the spread of infection.

Ensuring adherence to the standard precautions outlined in this programme will help to prevent and control healthcare associated infection within your work environment.

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Why the Need to Control  
the Spread of Infection

Your Role in Infection  
Prevention and Control

## Module 2 Hand Hygiene

# 2



### Key learning points

Having completed this module participants will know:

- Why hand hygiene is so important
- When to perform hand hygiene
- The different types of hand hygiene
- How to use each hand hygiene technique
- Their role in hand hygiene



### Timing

This module will take approximately 25 minutes to complete.



### Process

Use the following process as a guide:

- 5 minutes for pre DVD viewing discussion on the subject
- 15 minutes to view the DVD module
- 5 minutes for a post DVD viewing discussion



### Suggested Facilitation Discussion Questions

Use some of the questions below to encourage group discussion:

#### Pre DVD Viewing

1. How important do you think hand hygiene is in the fight against healthcare associated infection?
2. What parts of the hand do you think are missed most often when performing hand hygiene?
3. When do you think are the most suitable times to perform social hand hygiene and antiseptic hand hygiene?

#### Post DVD Viewing

1. What learning points did you take from this module of the DVD?
2. How have the techniques shown differed to the way you perform hand hygiene currently?
3. What challenges could you face daily in performing hand hygiene and how can you combat these?



## Introduction

On completion of this module you will know:

- Why hand hygiene is so important
- When to perform hand hygiene
- The different types of hand hygiene
- How to use each hand hygiene technique, and
- Your role in hand hygiene

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Microbiology and Infection Control experts agree that the single most important step to prevent and control the spread of infection is hand hygiene.<sup>5</sup>

When working in any healthcare setting it is essential that our hand hygiene technique is excellent at all times. Hand hygiene is the process of cleaning your hands by following a series of simple steps.

Lets take a look to see what parts of the hands are often missed during the cleaning process. On the screen now, you can see the parts of the hands most often missed in red. The parts of the hands that are less often missed can be seen now in blue. The least often missed is coloured white and is highlighted now.<sup>6</sup>

The picture shows that although you might spend time cleaning your hands, you may in fact be missing important parts of your hands as you clean them.

The reason you perform hand hygiene is to rid them of micro- organisms. The type of micro-organisms recovered from your hands can be divided into two main types: transient flora and resident flora.

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Taking transient flora firstly. These are micro-organisms that have recently contaminated the skin. They are found on the skin surface and can survive for only a limited amount of time. They are most frequently associated with healthcare

associated infections, for example, MRSA. These micro-organisms can be readily transmitted unless they are removed. Removal is achieved primarily by hand hygiene.<sup>7</sup>

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## What is on your Hands : Resident Flora

Resident flora are micro-organisms that can be isolated from the skin of most people and are considered to be permanent residents. These micro-organisms survive and multiply on the skin and can live deeper in the skin. This type of micro-organism can cause infection in patients who are severely immunocompromised, particularly following invasive procedures.<sup>7</sup> Removal of resident flora requires performance of hand hygiene using an antimicrobial agent such as a disinfectant.

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Hand hygiene should be done after every physical contact with a patient and after every task undertaken. Some obvious examples include:

- After taking a patient's blood pressure, dressing wounds or tending catheters
- Before putting on and after taking off gloves or aprons
- After using the toilet, blowing your nose, covering a sneeze or smoking
- Before and after eating or preparing food

Some not so obvious examples include:

- Having assisted a patient to move from one ward to another
- When you have finished changing a patient's bed
- Before starting work or when you have finished work

As a general rule, carry out hand hygiene if you are in any doubt whether it is a good time to do so or not.

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## When to Perform Hand Hygiene

## Importance of Hand Hygiene

### What is on your Hands : Transient Flora

The Guidelines for Hand Hygiene in Irish Health Care Settings published in 2005 set out three different levels of hand hygiene. These are social, antiseptic and surgical hand hygiene.<sup>8</sup>

Social hand hygiene is used to remove dirt and organic material, dead skin and most transient micro-organisms from your hands. It can be used following most daily tasks and involves washing your hands with a liquid soap and warm water. Or if your hands are visibly clean you may also use an alcohol hand gel or rub.

Antiseptic hand hygiene is used where a higher level of cleanliness than social hand hygiene is required, for example if a patient is immunocompromised. When carried out correctly it will remove most transient micro-organisms. It involves cleaning your hands with an alcohol hand gel or rub. This technique should only be used where your hands are visibly clean. You can also wash your hands with an antiseptic liquid soap to achieve Antiseptic hand hygiene.

Surgical hand hygiene is used before all surgical procedures and removes all transient and resident micro-organisms.

This DVD focuses on two aspects of hand hygiene: washing your hands with a liquid soap and warm water and cleaning your hands using an alcohol gel or hand rub.

When performing hand hygiene it is useful to think of this formula;

1. You will need the right amount of appropriate product,
2. You will need to follow the correct technique that cleans all areas of your hands, paying particular attention to the areas most frequently missed, such as your fingertips, thumbs and wrists
3. You need to spend the correct amount of time at the technique, and
4. You will need to make sure your hands are dried in the proper way<sup>7</sup>

In preparation for carrying out hand hygiene it is important to remember some general pointers, that nails should be kept short and nail varnish, false nails and hand or wrist jewellery should never be worn while you are working. A ring, such as a plain band, without stones or ridges, is all that is permitted to

be worn while on duty.<sup>9</sup> It is important that you always remember to rotate the plain band when cleaning your hands to make sure you also clean the skin underneath the band. Also, before starting work each day you should cover any cuts or abrasions on your skin with an impermeable plaster.

Now let's look at the correct hand washing procedure.

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Social hand washing with plain soap, is used to remove dirt and organic material, dead skin and most transient micro-organisms from your hands.

Using the formula from earlier;

1. You will use a good neutral liquid soap and warm water
2. The technique will involve a number of steps that covers the back and front of each hand, the fingers and the wrists.
3. You must spend a minimum of 15-20 seconds washing your hands, and
4. You should pat your hands and wrists thoroughly dry using good quality disposable paper towels.

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As a healthcare worker some examples of when you should use this hand hygiene technique are:<sup>10</sup>

- Before and after each patient contact
- After moving from a contaminated to a clean area during care of an individual patient
- When your hands are visibly contaminated with dirt, soil or organic material
- At the beginning and end of the work shift
- Before putting on or after taking off gloves or aprons
- After handling soiled equipment, materials or environment
- Before preparing or handling food
- After personal bodily functions such as blowing your nose or using the toilet

This list is not exhaustive.

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## Antiseptic Hand Hygiene

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The antiseptic hand hygiene technique is used to achieve a higher level of cleanliness than social hand hygiene. Applied correctly it will remove most transient micro-organisms. Remember that alcohol gels can only be used when your hands are visibly clean. If you think about our formula from earlier;

1. This time you will use an alcohol hand gel or rub.
2. The technique involves a number of steps that covers the back and front of each hand, the fingers, thumbs and the wrists.
3. You should spend a minimum of 15 seconds cleaning your hands.
4. Your hands will dry by themselves. There is no need to use paper towels. Drying will take about 30 seconds.

Antiseptic hand wash may be used to wash dirty or soiled hands. Washing with an antiseptic hand wash preparation is acceptable as an alternative to use of alcohol gels or hand rubs although it may take longer to perform.

## When to Perform Antiseptic Hand Hygiene

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This type of hand hygiene should be used:<sup>10</sup>

- Before and after each contact with patients who are immunocompromised, in critical units or who have large wounds or burns
- After all contact with patients on transmission based precautions and prior to leaving wards or rooms with such patients
- And, as part of an aseptic technique before performing invasive procedures

Lets take a look at both techniques in action.

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Following the correct hand washing technique ensures that all areas of the hands and wrists are cleaned. You should use a good neutral liquid soap. Make sure that the water is at the correct temperature and then follow the steps as shown in this video.

First wet your hands thoroughly using running water. Cupping your hands apply five millilitres of soap by pressing the soap dispenser with the heel of your hand. Try to avoid using your finger tips on the dispenser. Rub the palms of your hands five times to create a lather. Rub your right hand over the back of your left hand five times up to wrist level and then do the same with the other hand. Rub your right hand over the back of your left hand five times while interlacing your fingers. Then change hands and repeat the process. Rub palm to palm five times this time with your fingers interlaced. Rub the backs of your fingers to the opposing palms with your fingers interlocked. This ensures thorough cleaning of the fingertips. Ensure that soap covers all parts of the thumb using a rotating motion. Rub the tips of your fingers against the opposite palm using a circular motion. Then change hands and repeat the process. Place one hand on your wrist and rotate around your wrist five times, then do the same with your other wrist. Rinse your hands and wrists thoroughly under running water to remove all traces of soap. Turn off the taps using your elbow making sure not to touch the taps with your clean hands. Dry your hands completely using a disposable paper towel. When drying your hands start from the fingertips and move towards the wrist. Put the paper towel in the correct waste bin using the foot pedal to open it to avoid inadvertently contaminating your hands from the lid of the bin.<sup>11</sup>

This hand washing technique takes a minimum of 15 seconds with additional time required for drying. This is the same technique you would use for carrying out antiseptic hand washing using a liquid antiseptic soap.

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## How to Perform Hand Washing

## How to Apply Alcohol Hand Gel/Rub

Cleaning your hands using alcohol hand gel or rub takes a minimum of 15 seconds. You should follow the steps outlined in this video.

Cupping your hands apply 5mls of alcohol hand gel or rub by pressing the dispenser with the heel of your hand. Try and avoid using your fingertips on the dispenser. Rub palm to palm five times. Rub your right hand over the back of your left hand five times up to the wrist level and then do the same with the other hand. Rub your right hand over the back of your left hand five times while interlacing your fingers. Then change hands and repeat the process. Rub palm to palm five times with your fingers interlaced. To clean fingertips rub the backs of your fingers to the opposing palms with your fingers interlocked. Rub the thumbs of each hand separately using a rotating motion. Rub the tips of your fingers against the opposite palm using a circular motion. Place one hand on your wrist and rotate around your wrist five times, then do the same with your other wrist. Your hands should dry by evaporation. This should take about 30 seconds.<sup>12</sup>

It is important to remember, that it is not appropriate to use alcohol hand gels or rubs when dealing with a patient whom you know has a Clostridium difficile infection. The spores which the Clostridium difficile bacteria can form are resistant to alcohol, therefore it is very important that you only use a liquid soap to carry out hand hygiene in these circumstances.

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So to recap, you may wonder when is the best time to wash your hands using liquid soap and water or when to clean them using alcohol hand gel or rub. Here is a quick rule of thumb to help you remember:

If your hands are visibly dirty you should always wash them using a good liquid soap and warm water.

When your hands look clean, in most situations you have two options:

1. You can wash them using a neutral liquid soap and warm water, or
2. You can clean them using an alcohol hand gel or rub.

If using alcohol hand gel or rub with added emollient regularly it is advisable to wash your hands as per

manufacturers instructions as an excessive build up of emollient on the hands may occur.<sup>13</sup> Each alcohol hand gel or rub may have a differing frequency of hand washing, therefore, it is important to follow specific manufacturer's advice.

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Everybody has a role to play in ensuring that they follow these hand hygiene guidelines. It takes commitment from everyone. When work is very busy it can be difficult to remember hand hygiene and to take the time to perform it correctly. It is essential, if we are to meet our own ideal of doing our best for our patients and making sure that we do them no harm that we do remember hand hygiene and we do make the time. Always remember:

- Hand hygiene is key in preventing and controlling the spread of healthcare associated infection.
- It is important to perform hand hygiene after every patient contact and on completing every task.
- The hand hygiene technique you use must match the task involved.
- Hand hygiene saves lives.
- If you have an existing skin problem or if a problem develops contact Occupational Health for advice and guidance.

If you have any queries relating to the facilities or training for infection control in your work environment you should raise the concern with your line manager and with Infection Control.

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## Module 3 Waste Management & Decontamination Issues

# 3



### Key learning points

On completion of this module participants will know:

- The different types of healthcare waste
- The methods of waste packaging and disposal
- How to correctly manage sharps
- When and how to segregate laundry
- The different types of decontamination
- Their role in healthcare waste management and decontamination



### Timing

This module will take approximately 25 minutes to complete.



### Process

Use the following process as a guide:

- 5 minutes for pre DVD viewing discussion on the subject
- 15 minutes to view the DVD module
- 5 minutes for a post DVD viewing discussion



### Suggested Facilitation Discussion Questions

Use some of the questions below to encourage group discussion:

#### Pre DVD Viewing

1. What do you think are the different types of healthcare risk and non-risk waste?
2. How familiar are you with the healthcare risk and non-risk waste procedures in your work environment? When was the last time you reviewed them?
3. What are the different types of decontamination processes available and when might you use each?

#### Post DVD Viewing

1. What learning points did you take from this module of the DVD?
2. Were there any surprises in any of the content that you read or heard?
3. Has your knowledge and understanding of these precautions increased?

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## Introduction

On completion of this module you will know:

- The different types of healthcare waste
- The methods of waste packaging and disposal
- How to correctly manage sharps
- When and how to segregate laundry
- The different types of decontamination, and
- Your role in healthcare waste management and decontamination

## What is Healthcare Waste?

Good practices in the generation and housekeeping of waste are key to responsible and successful healthcare waste management. The risk of waste spreading infection is very low if it is handled correctly. Healthcare waste is the solid or liquid waste arising from healthcare or health related facilities. The first level of segregation involves the division of healthcare waste into "risk" and "non-risk" waste.<sup>14</sup>

A small proportion of healthcare waste is technically hazardous, or, risk waste due to the risk of it being infectious to those who come into contact with it or because it contains used sharp materials that could cause injury.<sup>14</sup>

It can be categorised into a number of different areas.<sup>15</sup>

The first of these is general healthcare risk waste. This includes:

- Blood and items visibly soiled with blood
- Contaminated waste from patients with transmissible infectious diseases
- Incontinence wear or nappies from patients with known or suspected enteric pathogens
- Other healthcare infectious waste

The other categories of waste include:  
Laboratory healthcare risk waste. This includes specimens and potentially infectious waste from pathology departments,

microbiology cultures and other laboratory waste.

Biological healthcare risk waste. This is anatomical waste, for example, all human tissue, organs and body parts.

Radioactive healthcare risk waste. This includes materials classified as radioactive which are in excess of authorised clearance levels.

Chemical healthcare risk waste. This is discarded chemicals and medicines.

And finally sharps. These are any objects which have been used in the diagnosis, treatment or prevention of disease that are likely to cause a puncture wound or cut to the skin.

Examples of sharps include syringes, needles, scalpels and razorblades.

## Healthcare Risk Waste Packaging

Two different types of packaging are used for healthcare risk waste; the first are bags or sacks, and the second are rigid containers in the form of bins or boxes.<sup>16</sup>

The bags, which are UN approved, are made of plastic film or, sometimes, plastic or wax-coated paper. The bags are used to hold soft materials that do not contain sharp objects or liquids.

Rigid containers are generally made from plastic, are UN approved and are used to dispose of sharp items. There are also rigid spill-proof containers that are UN approved and are used for other forms of healthcare risk waste which contain free fluids.

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## Healthcare Risk Waste Disposal

There are six different types of boxes and bags to segregate different types of healthcare risk waste. The bags and boxes for risk waste are generally coloured yellow with individually coloured lids.<sup>17</sup> Lets have a look at each.

- A yellow bag should have blood stained or contaminated items which are soft placed in it. Typical contents include dressings, swabs and incontinence waste from known or suspected enteric infections.
- A yellow rigid box with a yellow lid will typically be used to dispose of contained body fluids, blood and blood administration sets.
- A yellow rigid box with a purple lid will be used to dispose of non-sharp cytotoxic waste and discarded chemicals and medicines.
- A yellow sharps bin with a blue lid or red lid should be used for sharp items such as needles, syringes, scalpels and stitch cutters.
- A yellow sharps bin with a purple lid should be used to dispose of sharps that have been used for the administration of cytotoxic drugs.
- A yellow rigid bin with a black lid is used to segregate non-autoclaved microbiological cultures and large anatomical body parts.

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## Correct Management of Sharps Waste

Sharps are dangerous implements that can cause harm and spread infection. It is important that you are always careful when dealing with any sharp instrument. When dealing with sharps it is important to remember that:<sup>18</sup>

- Needles must not be bent or broken prior to use or disposal.
- Needles and syringes must not be disassembled by hand prior to disposal.
- Needles should not be recapped.
- Sharps must not be passed directly from hand to hand and handling should be kept to a minimum.

Used sharps must be discarded into a sharps container at the point of use. Sharps boxes must be wall mounted away from public places and in limited access areas only.

## Healthcare Non-Risk Waste

The majority of healthcare waste is non-risk waste. This is waste that is not hazardous to those who come in contact with it and accounts for approximately 80% of healthcare waste.<sup>14</sup> You can think of healthcare non-risk waste in the following categories:<sup>15</sup>

- Domestic waste: This includes normal household and catering waste that cannot be recycled, all non-infectious, non-toxic, non-radioactive and non-chemical waste. Selected domestic waste, for example, waste food can be composted if facilities are available.
- Medical equipment: Assessed as non-infectious, that is not contaminated with blood or body fluids. Typical waste includes oxygen face masks, empty urinary drainage bags, non contaminated gloves and aprons and facemasks.
- Potentially offensive material: This is assessed as non-infectious, i.e. not contaminated with blood or body fluids for example nappies or incontinence wear, stoma bags, etc.
- Confidential material: Includes shredded waste and documents of a confidential nature.

The majority of non-risk waste is of a domestic nature and requires disposal as normal domestic or commercial waste, usually in black plastic sacks, bins, skips or containers.

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## Waste Disposal

Remember, do not overfill bags or boxes. When disposing of risk and non-risk waste, containers should be securely closed when at maximum 3/4 full or at manufacturer's fill line. All boxes should be identified by origin, day and date of disposal.

Similarly, bags must be securely closed with a cable tie when 2/3 full. All bag ties are numbered when allocated to healthcare areas. The cable tie number can then be traced back to origin if required at a later date.<sup>17</sup>

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## Laundry within a Healthcare Setting

Similar to waste, used laundry needs to be treated as a potential risk of infection and needs to be segregated.

The segregation of linen should be based on the new national colour coding guidelines for linen and laundry bags. The national colour code identifies four different types of coloured bags.<sup>19</sup>

Foul or infected linen should be segregated from normal dirty bed linen. It should be placed in an alginate or water-soluble bag before being placed in a red laundry bag for transportation to the laundry.

Linen that is used but not contaminated should be segregated into a white laundry bag.

Blue bags should be used for body linen and scrub suits that need to be segregated from whites.

Finally all theatre linen, excluding scrub suits, should be placed in a green laundry bag.

• • • •

Care should be taken when using medical devices and patient care equipment. These devices can be categorised into single use items or reusable items.

You will recognise 'single use only' medical devices and equipment from the symbol seen on the screen now. When you see this symbol it means that the medical device or equipment can be used only once. It cannot be reprocessed or reused and is not reusable on other patients. The equipment in this case should be disposed of in the appropriate manner. Typical types of medical devices or equipment that carry the 'single use only' symbol include:

- Needles
- Syringes
- Scalpels, and
- Oxygen and nebulizer therapy equipment

Reusable medical devices or equipment can be used on an

ongoing basis with the same or different patients. It is important, however, that the reusable equipment is appropriately decontaminated between patients. The types of equipment that you may come across on a day-to-day basis include:

- Blood pressure monitoring equipment
- Blood glucose monitoring equipment
- Commodes
- Hoists, and
- Wheelchairs

• • • •

Patient equipment can become contaminated with blood and/or other body fluids during the delivery of care. Therefore, blood and other body fluids must be managed appropriately in order to limit the risk of micro-organisms potentially contaminating equipment. This in turn could lead to the potential contamination or infection of patients, staff, visitors or others during subsequent use. Appropriate decontamination of patient equipment is fundamental to reducing its potential contribution to healthcare associated infection.<sup>19</sup>

The transfer of micro-organisms from surfaces to patients is largely considered to be via hand contact. As covered previously hand hygiene therefore, is paramount in reducing the spread of infection in this way.

Patient equipment should be decontaminated as follows:<sup>19</sup>

- When visibly dirty, for example, contaminated with dust.
- On a routine, scheduled basis, as detailed locally. Generally, this will be after use, on a daily basis or based on risk assessment.
- Immediately when spillages or contamination with blood or body fluids occur.
- On patient departure or discharge, that is, terminal cleaning.

• • • •

## Healthcare Equipment : Single Use V Reusable

## Decontamination of Healthcare Equipment



### Decontamination Processes / Environmental Cleaning

Decontamination is the combination of processes used to make an item or surface safe for handling by staff and for further use. The three processes of decontamination commonly used are cleaning, disinfection and sterilisation.<sup>19</sup>

1. Cleaning is a process, which physically removes contamination but does not necessarily destroy micro-organisms. Cleaning removes micro-organisms and the organic material on which they thrive. In order to decontaminate patient equipment effectively all organic debris for example, blood, tissue and other body fluids, must be removed from the item prior to disinfection and/or sterilisation. Cleaning is carried out using a neutral detergent, clean warm water and a clean cloth.
2. Disinfection is used to reduce the number of viable micro-organisms but it may not necessarily inactivate some microbial agents, such as certain viruses and bacterial spores. Disinfection does not achieve the same reduction in microbial contamination levels as sterilisation. Local guidance will list what disinfectant agent should be used. Disinfection follows cleaning.
3. Sterilisation is a process used to render an object free from living micro-organisms including viruses and bacterial spores. Normal sterilisation methods will not destroy prions. Prions are infectious agents responsible for causing Transmissible Spongiform Encephalopathys, which include Creutzfeldt-Jakob Disease, CJD.

• • • •

### Management of Blood Spills

In the event of a blood spillage in your work area it is important that you protect yourself by using the appropriate personal protection equipment. You should wear disposable gloves and a disposable plastic apron.

You should decontaminate all blood spills with a chlorine-based disinfectant or a suitable alternative. You should follow the manufacturer's instructions and always follow local guidelines.

• • • •

### Your Role in Healthcare Waste Management & Decontamination

You play a key part in the management of healthcare waste and ensuring that decontamination is conducted effectively. It is important for you to remember:

- The risk of healthcare waste spreading infection is very low if it is handled correctly.
- This means always segregating healthcare waste into risk and non-risk waste.
- Always remember to segregate soiled bed linen.
- Always take note of whether medical equipment is reusable or single use and ensure that single use equipment is never reused.
- Appropriate decontamination of patient equipment is fundamental to reducing its potential contribution to healthcare associated infection.
- Always remember to follow local guidelines in relation to each area of waste management and decontamination. In doing so, you will be helping to protect the environment from the ill-effects or consequences of incorrect and inappropriate disposal of healthcare waste.

• • • •

## Module 4 Personal Protection

# 4



### Key learning points

On completion of this module participants will know:

- Why it is important to use personal protective equipment
- What and how to use each type of personal protective equipment
- How to handle inoculation injuries
- Their role in personal protection



### Timing

This module will take approximately 20 minutes to complete.



### Process

Use the following process as a guide:

- 5 minutes for pre DVD viewing discussion on the subject
- 10 minutes to view the DVD module
- 5 minutes for a post DVD viewing discussion



### Suggested Facilitation Discussion Questions

Use some of the questions below to encourage group discussion:

#### Pre DVD Viewing

1. Why do we need to use personal protective equipment?
2. What are the types of personal protective equipment and how would you use each?
3. How would you handle an inoculation injury?

#### Post DVD Viewing

1. What learning points did you take from this module of the DVD?
2. Are you clear on the use of each type of personal protective equipment?
3. Who can you contact if you have any further questions on the use personal protective equipment or any other precaution outlined in this DVD?

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## Introduction

On completion of this module you will know:

- Why it is important to use personal protective equipment
- When and how to use each type of personal protective equipment
- How to handle inoculation injuries, and
- Your role in personal protection

• • • •

Expert opinion suggests that the primary uses of personal protective equipment are to protect staff and to reduce the opportunities for transmission of micro-organisms within a healthcare setting.<sup>18</sup> Personal protection involves protecting yourself as you go about your work in the healthcare environment.

## The Need for Personal Protective Equipment

The decision regarding what personal protective equipment to wear must be based on an assessment of the level of risk associated with the specific patient care activity or intervention, which is to be undertaken by the healthcare staff member. The decision should take into account current health and safety legislation and must comply with local guidelines.

The personal protective equipment available in a healthcare environment includes gloves, aprons, gowns, eye protection and facemasks.

• • • •

## The Use of Gloves

Expert opinion agrees that there are two main indications for the use of gloves in preventing healthcare associated infection. Firstly, to protect hands from contamination with organic matter and micro-organisms, and secondly to reduce the risk of transmission of micro-organisms to both patients and staff.<sup>18</sup> The gloves demonstrated are non-sterile gloves and are appropriate for most general purposes. Gloves should not be worn unnecessarily, as their prolonged and indiscriminate use may cause adverse reactions and skin sensitivity.

Gloves must be worn for:

- Invasive procedures
- Contact with sterile sites
- Contact with non-intact skin
- Contact with mucous membranes
- And, all activities that have been assessed as potentially carrying a risk of exposure to blood or body fluids

In addition, it is important to remember that:

- Gloves must be discarded after each use for which they are worn.
- Disposable gloves must never be washed.
- Gloves must be changed between caring for different patients, or between different care or treatment activities for the same patient.
- Gloves are not a substitute for hand hygiene, therefore hand hygiene must be carried out prior to putting on and after removing gloves to ensure that no contamination of the hands occurred by touching the gloves on removal.

If you suffer from hypersensitivity reactions to latex you can avail of non-latex gloves as an alternative. For more information you should contact Infection Control or your Occupational Health department.

• • • •

Best practice opinion suggests that disposable aprons and gowns must be worn by all healthcare staff when in contact with blood or body fluids, or when close contact with the patient, materials or equipment may lead to contamination of the clothing of staff with micro-organisms.<sup>18</sup>

Plastic disposable aprons:

- Are recommended for general use and must be used as a single-use item at all times.
- Must only be used for one procedure or episode of patient care and then must be discarded appropriately.

Full body gowns may be required in certain circumstances when more comprehensive protection of staff clothing is required. It is important to remember that hand hygiene must be

## The Use of Aprons & Gowns

performed after the removal of disposable plastic apron or gown, in case any contamination of hands occurred while removing these items.

Always remember to follow local guidelines.

• • • •

Eye protection, either goggles or visors, must be worn where there is an indication of splashing of blood and or body fluids into the face and particularly the eyes.<sup>18</sup> Instances where goggles or visors are highly recommended include:

- when undertaking phlebotomy, and
- assisted childbirth

Face masks are required under some circumstances when caring for patients with infectious diseases that may be transmitted by aerosols, such as those with pulmonary tuberculosis. In these cases special respiratory protection must be of a certain standard, such as particulate filter masks.

In cases of highly infectious respiratory diseases the patient will require being cared for in an isolation room with negative pressure. The Infection Control Team should always be contacted when any query arises in relation to respiratory protection. Always remember to follow local guidelines.

Hand hygiene must be performed after removal of any eye protection, face or respiratory protection, to ensure that hands have not become contaminated on their removal.

• • • •

All staff must be advised to familiarise themselves with local guidelines in relation to inoculation injuries prior to commencing employment.

While we endeavour at all times to ensure that we protect ourselves against risk there may be incidents of injury by a sharp or where you have been splashed by blood.

Should this happen you should follow these guidelines:<sup>20</sup>

1. Encourage the puncture site to bleed
2. Wash the area under warm running water
3. Apply a waterproof dressing
4. Identify the source patient, if appropriate
5. Seek medical advice

Should you be splashed by blood or bodily fluids in your eyes, nose, mouth, or broken skin, immediately wash with water or a normal saline solution and follow the guidelines as outlined previously. On each occasion you should notify the head of department or person in charge and then complete a record of the incident or accident on the appropriate form.

All staff who are involved in direct patient contact should be seen by their local Occupational Health staff prior to commencing employment to ensure that all appropriate vaccinations are administered, and that an accurate vaccination history is documented.

Always remember to follow local guidelines.

• • • •

Personal protection involves protecting yourself as you go about your work in the healthcare environment. It is important for you to remember:

- The decision to wear personal protective equipment must be based on an assessment of the level of risk associated with the activity and remember to refer to local guidelines. Whenever in doubt contact Infection Control.
- Follow the guidelines relating to the different types of personal protective equipment as outlined in this DVD.
- Always report inoculation injuries immediately and follow local guidelines.
- Adherence to standard infection control precautions is the best way to prevent the transmission of blood-borne pathogens.
- Vaccination is a vital step in ensuring personal health and safety.
- Contact your local Occupational Health department for further advice and information on vaccinations.

## Module 5 Summary

# 5



### Key learning points

On completion of this module participants will have:

- Reviewed the main areas of the DVD in summary
- Be aware of websites they may access for further information



### Timing

This module will take approximately 10 minutes to complete.



### Process

Use the following process as a guide:

- 5 minutes to view the DVD module
- 5 minutes for a post DVD viewing discussion



### Suggested Facilitation Discussion Questions

Use some of the questions below to encourage group discussion:

### Post DVD Viewing

1. Overall, what are the key points you have learned from the DVD?
2. Are there any areas in any of the modules that you are unclear about?
3. Do you feel confident to complete the participant workbook?
4. Where can you find further information?

Earlier in this DVD we saw that there has been an increased occurrence of healthcare associated infection in recent times. The 3rd prevalence survey of healthcare associated infection in acute hospitals showed an overall rate for Ireland of 4.9%.

Many of the attributing factors including high bed occupancy as well as infrastructural and systemic problems, are outside your control as a healthcare worker, however, working with your colleagues and the Infection Control team you do play an important part in ensuring that your work environment is safe for patients, visitors and staff.

In summary, this DVD has focused on three main areas.

Firstly, hand hygiene. It is important that hand hygiene is performed after every physical contact with a patient and after every task undertaken. The technique you use must match the task involved.

Secondly, the waste management and decontamination issues module highlighted the need to appropriately manage and dispose of healthcare risk and non-risk waste. All waste must be disposed in the appropriate box, container or bag. For laundry and bed linen it is essential to segregate using the new national colour coding guidelines. It is also important to remember that single use items should never be reused and that you always decontaminate reusable equipment after use.

Finally, we reviewed the area of personal protection. This module focused on the appropriate use of the different types of personal protective equipment. The type of equipment to be used must be based on the level of risk involved and be in line with health and safety legislation.

Always remember to follow local guidelines and if you are in any doubt or need further advice contact your local Infection Control team or your supervisor. For further information you can check out the websites on screen now.

• • • •

# STANDARD PRECAUTIONS

in the Irish healthcare setting

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Appendix 9: National Linen Segregation Policy: Quality, Risk & Customer Care
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This workbook should only be completed as a support to the 'Standard Precautions in the Irish healthcare setting' DVD Hospital Edition. It should be completed in full, signed by the person completing it and signed by the programme facilitator. On completion, this workbook should be sent to the local HR/Training/Infection Control Department, as appropriate.

Name \_\_\_\_\_  
 Staff No \_\_\_\_\_  
 Title \_\_\_\_\_  
 Department / Ward \_\_\_\_\_  
 Date \_\_\_\_\_

[Tick the correct answer(s) under each question]

## Module 1 Infection Prevention & Control

1 A healthcare associated infection is defined as an infection that arises in a patient:

- ☐ 18 hours or more after admission
- ☐ 48 hours or more after admission
- ☐ 24 hours or more after admission

2 Some of the most commonly known infections associated with healthcare include:

- ☐ MRSA
- ☐ Clostridium difficile
- ☐ Norovirus
- ☐ All of the above

3 Which of the following is not a link in the chain of infection?

- ☐ Infectious agent
- ☐ Reservoir
- ☐ Means of entry
- ☐ Micro-organism
- ☐ Means of exit

4 The increase in healthcare associated infection in recent years can be attributed to:

- ☐ The emergence of new infections
- ☐ Technical advances in terms of treatments and devices
- ☐ Patient dependency e.g. our older population
- ☐ All of the above

## Module 2 Hand Hygiene

1 Most transient micro-organisms, found on the skin of your hands, can be removed by performing hand hygiene?

- ☐ True
- ☐ False

2 After which of the following should you perform hand hygiene?

- ☐ After blowing your nose
- ☐ Before putting on or taking off gloves
- ☐ Having changed a patient's bed
- ☐ Having taken a patient's blood pressure
- ☐ All of the above

3 An alcohol hand gel or rub can be used for both social and antiseptic hand hygiene.

- ☐ True
- ☐ False
- ☐ True, but only when hands are visibly clean

4 Which of the following is not part of the formula for an effective hand hygiene technique:

- ☐ A suitable hand hygiene agent
- ☐ A good technique
- ☐ Correct duration
- ☐ Drying using a hand towel



### Module 3 Waste Management & Decontamination Issues

- 1 Healthcare waste can be defined as the solid or liquid waste arising from healthcare or health related facilities.
  - ☐ True
  - ☐ False
- 2 Which of the following is not healthcare risk waste?
  - ☐ Blood and items soiled with blood
  - ☐ Microbiology cultures
  - ☐ Anatomical
  - ☐ Waste food
  - ☐ Syringes
- 3 Foul or infected linen should be placed in an alginate bag and placed in what colour bag?
  - ☐ Red
  - ☐ White
  - ☐ Blue
- 4 Which of the following medical devices/equipment are classed as 'single use only'?
  - ☐ Syringes
  - ☐ Blood pressure monitoring equipment
  - ☐ Needles
  - ☐ Oxygen equipment
  - ☐ Commodes

### Module 4 Personal Protection

- 1 Gloves must be changed between caring for different patients, or between different care or treatment activities for the same patient.
  - ☐ True
  - ☐ False
- 2 If you have any queries relating to personal protective equipment to whom should you talk to?
  - ☐ Your supervisor
  - ☐ Infection Control
  - ☐ Either of these
- 3 Hand hygiene must be performed after the removal of gloves, aprons, gowns and facemasks?
  - ☐ True
  - ☐ False
- 4 The name of someone in infection control that you can speak to regarding healthcare associated infection is:

---



---

I, the undersigned, confirm that I have viewed the 'Standard Precautions in the Irish healthcare setting DVD' and that the completion of this worksheet is all of my own work.

Signed \_\_\_\_\_  
 Date \_\_\_\_\_  
 Facilitator's Signature \_\_\_\_\_  
 Date \_\_\_\_\_

PLEASE RETURN THIS WORKBOOK TO THE  
RELEVANT DEPARTMENT

This workbook should only be completed as a support to the 'Standard Precautions in the Irish Healthcare Setting' DVD Hospital Edition. The correct answers are outlined below in bold and the boxes are ticked. It should be completed in full, signed by the person completing it and signed by the programme facilitator. Incorrect answers should be discussed with the individual and the workbook completed again if necessary.

On completion this workbook should be sent to the local HR/ Training/Infection Control Department, as appropriate.

## Module 1 Infection Prevention & Control

- 1 A healthcare associated infection is defined as an infection that arises in a patient:
  - ☐ 18 hours or more after admission
  - ☒ **48 hours or more after admission**
  - ☐ 24 hours or more after admission
- 2 Some of the most commonly known infections associated with healthcare include:
  - ☐ MRSA
  - ☐ Clostridium difficile
  - ☐ Norovirus
  - ☒ **All of the above**
- 3 Which of the following is not a link in the chain of infection?
  - ☐ Infectious agent
  - ☐ Reservoir
  - ☐ Means of entry
  - ☒ **Micro-organism**
  - ☐ Means of exit
- 4 The increase in healthcare associated infection in recent years can be attributed to:
  - ☐ The emergence of new infections
  - ☐ Technical advances in terms of treatments and devices
  - ☐ Patient dependency e.g. our older population
  - ☒ **All of the above**

## Module 2 Hand Hygiene

- 1 Most transient micro-organisms, found on the skin of your hands, can be removed by performing hand hygiene?
  - ☒ **True**
  - ☐ False
- 2 After which of the following should you perform hand hygiene?
  - ☐ After blowing your nose
  - ☐ Before putting on or taking off gloves
  - ☐ Having changed a patient's bed
  - ☐ Having taken a patient's blood pressure
  - ☒ **All of the above**
- 3 An alcohol hand gel or rub can be used for both social and antiseptic hand hygiene.
  - ☐ True
  - ☐ False
  - ☒ **True, but only when hands are visibly clean**
- 4 Which of the following is not part of the formula for an effective hand hygiene technique:
  - ☐ A suitable hand hygiene agent
  - ☐ A good technique
  - ☐ Correct duration
  - ☒ **Drying using a hand towel**

### Module 3 Waste Management & Decontamination Issues

- 1 Healthcare waste can be defined as the solid or liquid waste arising from healthcare or health related facilities.  
☒ **True**  
☐ False
- 2 Which of the following is not healthcare risk waste?  
☐ Blood and items soiled with blood  
☐ Microbiology cultures  
☐ Anatomical  
☒ **Waste food**  
☐ Syringes
- 3 Foul or infected linen should be placed in an alginate bag and placed in what colour bag?  
☒ **Red**  
☐ White  
☐ Blue
- 4 Which of the following medical devices/equipment are classed as 'single use only'?  
☒ **Syringes**  
☐ Blood pressure monitoring equipment  
☒ **Needles**  
☐ Oxygen equipment  
☐ Commodes

### Module 4 Personal Protection

- 1 Gloves must be changed between caring for different patients, or between different care or treatment activities for the same patient.  
☒ **True**  
☐ False
- 2 If you have any queries relating to personal protective equipment to whom should you talk to?  
☐ Your supervisor  
☐ Infection Control  
☒ **Either of these**
- 3 Hand hygiene must be performed after the removal of gloves, aprons, gowns and facemasks?  
☒ **True**  
☐ False
- 4 The name of someone in infection control that you can speak to regarding healthcare associated infection is:  
  
\_\_\_\_\_  
\_\_\_\_\_

The Health Management Institute of Ireland (HMI) would like to thank shrc limited for developing and producing this DVD.

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Infection Prevention Society  
Incorporating the ICNA

The Infection Prevention Society,  
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