3 Boroughs Infection Control Service.

Infection Control Update Pack
For Nursing and Residential Home Carers and Nurses

Sue Wynne 2016
1. **Introduction**

Welcome to this Infection Control update pack. As part of CQC and safeguarding requirements all staff must receive an annual update on infection prevention and control. This pack has been developed to assist staff who have attended a formal training session with a qualified trainer or have already completed another Infection control qualification and need to refresh their learning to fulfil their CPD and mandatory requirements.

Infection prevention and control is an applied science that is designed to protect yourself, your service users, visitors or colleagues in your care setting. The update is made up of 8 short units which are standards that you apply to keep your work environment safe and which you should already be familiar with.

Your learning outcomes are related to how you apply the standards in your work place and therefore there are some simple activities that will demonstrate you have met them.

- The ICUP can be completed as a whole, or each unit can be done in isolation when you have time. However each unit is important as it relates to breaking the chain of infection.

- Evidence of units you have done should be kept by your line manager by filling in a unit log which is at the back of the pack. If you leave your employment to work somewhere else you can take it with you as evidence of your update.

**Learning methods**
- Self-directed with support and guidance from an experienced peer or manager.

**Learning outcomes**

The learner will gain knowledge and understanding of the chain of infection
And standard precautions

The learner will gain knowledge and understanding of Importance of Hand washing

The learner will gain knowledge and understanding use of personal protective Equipment
And dealing with spillage and body fluid spillage

The learner will gain knowledge and understanding of Sharps safety management

The learner will gain knowledge and understanding of Cleaning and
Decontamination of Equipment

The learner will gain knowledge and understanding of Norovirus and C difficile

The learner will gain knowledge and understanding of how to manage Laundry

The learner will gain knowledge and understanding of Disposal of waste

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**Introduction to the chain of infection Unit 1**

Health care associated infection is one of the highest risks during a hospital inpatient stay with 300,000 patients affected each year (PHE 2011)

When people are discharged from hospital or living in the community care environment, they are equally at risk from infection, particularly when they are being cared for in a residential or nursing home setting. This is because there are a lot of people living together in a small community potentially making spread of infection easier.

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**THE CHAIN OF INFECTION**

Spread of infection is part of a chain of events and in order to prevent infection occurring this chain has to be broken.

If this chain remains intact then infection spreads to other people and into the environment.

People get infections through

- Breathing in a virus, for example FLU OR Norovirus
- Eating contaminated food (Ingestion)
- Through sharps injury scratches or bites (Inoculation)
- The germ needs this continual chain of events for it to survive.
- A germ needs a host (Human) who is vulnerable, such as the elderly, very young or immune compromised (On Chemotherapy).
- It also needs a way of spreading from person to person, such as the environment, hand rails, equipment, furniture, people’s hands or close physical contact.

A germ or infectious agent then produces a series of unpleasant symptoms in the host (person), such as coughing sneezing vomiting or diarrhoea; this is how spread occurs in a care environment.

The environment becomes a reservoir of the germ, or organism, including surfaces hands of people, equipment and each other.
Breaking the cycle of events
STANDARD PRECAUTIONS  UNIT 2

Are a basic set of principles that when applied effectively can protect and keep you and your Service users safe.

- Correct hand washing technique
- Using personal protective equipment
- Sharps safety and awareness
- Dealing with body fluid spillage
- Cleaning and decontamination of equipment and environment
- Management of laundry
- Waste management

These are basic standards and need to applied for the safe clean care of your care community. We will now go through them in more detail.

Hand Washing to reduce the spread of Infection

Washing your hands properly is the most effective method of preventing the spread of infection.

We all have germs on our skin that survive without causing any harm to ourselves and they play a part in our bodies own defences, these are called resident or transit microorganisms. Intact skin keeps germs from getting into our deeper tissue and causing an infection.

If someone does not have intact skin, such as someone with a surgical wound or a leg ulcer, these germs on the skin have an opportunity to cause an infection, by entering the body because the skin is broken.

In the same way anyone with a urinary catheter, PEG, or other invasive device will be equally at risk. This is because they may be carriers or colonised with MRSA on their skin, increasing their risk of a wound or blood stream infection. You may have heard of some other multi resistant organisms such as or VRE or CPE.

VRE  Vancomycin- resistant Enterococci
Enterococci are bacteria (germs) that are commonly found in the bowels of most humans. There are many different types of enterococci, but only a few cause infections in humans.

The term Vancomycin- resistant Enterococci means the antibiotic Vanomycin, used to treat infections caused by enterococci bacteria, is no longer effective for some people

Most People who carry Enterococci in their bowel do not suffer any ill effect, this is termed as colonisation.

People with a poor immune system, or who are poorly in hospital are more prone to infection. This is because in hospital they are more likely to have invasive procedures, or have long stays as an inpatient where they are more likely to be given a lot of antibiotics to assist in making them well. Multiple use of antibiotics contributes to multi resistance.
Types of infections caused by Enterococci

Urinary Tract Infections

Infections of the abdomen or pelvis

Heart valve infection or Blood stream infections

The infection control team will usually ring and let you know if any of your residents colonised or have an active infection. Colonised means that the resident has been exposed to the bug in hospital and may be a carrier, therefore good handwashing is essential to prevent spread to other vulnerable residents, a care plan will be sent to the home to tell you how the resident needs to be cared for. Good hand washing is also essential.

Carbapenems
These are another group of stronger antibiotics, used for very sick patients in intensive care. We are also seeing resistance to these groups of drugs as well; if these groups of antibiotics fail, there is limited other options and some patients may be difficult to treat or die.

This is why antibiotic stewardship is essential.

This means obtaining a specimen, rather than asking a GP to prescribe over the phone, a sample will tell you what the bug is that is making your resident unwell and it can be targeted with the right antibiotic the first time. It also prevents unnecessary antibiotic prescribing
The 5 moments of hand hygiene is something you need to become familiar with in your work practice. This is a reminder of when you need to wash your hands:

- Before and after direct contact with residents/service users
- Before and after contact with the immediate environment
- After contact with body fluids/removal of gloves
- Before a clean aseptic procedure, dressings, etc.
- After handling contaminated linen

Although the 5 moments gives you a basic guide to preventing potential spread.

DON’T FORGET YOU SHOULD BE BARE BELOW THE ELBOW:

- To encourage your service user to wash their hands following toilet visits
- After going to the toilet yourself
- Before preparing food or assisting with feeding
- Before handling high-risk residents with PEGs, indwelling catheters, or those with known infection.
- To clean your environment daily
Hand-washing technique with soap and water

1. Wet hands with water
2. Apply enough soap to cover all hand surfaces
3. Rub hands palm to palm
4. Rub back of each hand with palm of other hand with fingers interlaced
5. Rub palm to palm with fingers interlaced
6. Rub with back of fingers to opposing palms with fingers interlocked
7. Rub each thumb clasped in opposite hand using a rotational movement
8. Rub tips of fingers in opposite palm in a circular motion
9. Rub each wrist with opposite hand
10. Rinse hands with water
11. Use elbow to turn off tap
12. Dry thoroughly with a single-use towel
13. Hand washing should take 15–30 seconds

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Adapted from World Health Organization Guidelines on Hand Hygiene in Health Care
Anything that you come into contact with in your work environment means you are spreading germs around. That is why hand washing is very important.

**Activity 2**
Write a list of when you need to wash your hands

Demonstrate correct hand washing technique to a trained observer.
Personal Protective Equipment is supplied by your care organisation to ensure that you can go about your duties safely. PPE is designed to protect you and your service user from the transfer of harmful germs, which has been termed as “cross infection”. The type of PPE should be based on a risk assessment.

You should wash your hands before putting your gloves on and after removing them for disposal.

- There is no need to wear gloves to assist service users to get dressed or undressed, as it is a low risk activity.
- Washing a service user does not require gloves unless a resident has continence problems or they are unable to perform their own personal lower body part hygiene. (Groin area), or any other circumstance where there may be leakage from a dressing or wound.
- If a resident or service user can have a bath or shower with supervision, gloves need not be worn.
- Hands should be washed as normal once your procedure is complete.
- You should never decontaminate gloves with alcohol gel during their use.

The reason you wear gloves is to protect your hands from becoming contaminated with Blood, body fluids, secretions and excretions.

ANSWER THE FOLLOWING QUESTIONS BY CIRCLEING YOUR ANSWER

1. Hands must be washed prior to putting on gloves: True or False
2. A single pair of gloves can be used for multiple interventions: True or False
3. Used Gloves need to be placed in a clinical waste bin: True or False
4. You need to wash your hands after removing your gloves: True or False
5. Alcohol gel should never be used on gloved hands: True or False
SAFE HANDLING OF BODY FLUIDS WEARING AN APRON

You need to wear an apron when you are likely to come into contact with body fluids. It acts as a barrier between your uniform and the person you are caring for. It prevents splashes or spillage going onto your uniform and prevention the risk of cross infection.

Aprons are single use and are worn at point of care; once a procedure is complete you need to remove it and dispose of it in a clinical waste bin.

If you wear your own clothes in your work environment, you still need to wear an apron if you are dealing with personal care, you should also ensure that you are bare below the elbow.

In special circumstances you may be required to wear a long sleeved fluid repellent gown, in circumstances such as:

- Where there is large spillage of body fluid

- Where gross contamination is likely such as Crusted scabies where skin cells are shedding onto bedding and the environment.

- When applying treatment for Crusted scabies, where there is thick widespread infection.

Crusted scabies can occur when diagnosis has been delayed and skin has become thickened scaly and is shedding onto bedding and clothing. A resident with this type of presentation is highly infectious.
Answer the following questions

- A long sleeved gown should be worn when there is a risk of gross contamination with body fluids/secretions/shedding. True or False
- Aprons can be worn for multiple tasks throughout the day True or False
- Aprons or gowns must be worn for a single episode of care True or False
- You can walk around your work environment with an apron on True or False

Eye and Mouth Protection

There are times when you may need some protection for your eyes and mucus membrane of your mouth. This may be when you need to use a disinfectant during an outbreak, Cleaning and disinfecting medical devices to avoid getting chemical splashes in your eyes;

Always follow manufacturer’s guidelines for using disinfectants and ensure that you never dilute or change the way it has been recommended for use.

Activity: locate and read your organisations personal protection Equipment policy
Locate your policy for dealing with body fluid Spillage
Locate your spillage kit.
Make a list of what is in your spillage kit

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Write some bullet points of the order in which you would deal with spillage. ie to start you off
- Make sure the area is blocked off with signage: Resident or area is made safe. (To avoid slips).
Blood is Hazardous because it could have hidden viruses from people who do not have Symptoms. These people are called carriers. Blood borne viruses can affect people of all ages. Even if you do not deal with needles and syringes, district nurses who attend some of your residents do. An inappropriately discarded sharp is one of the reasons someone else may receive a sharps injury.

If you do take blood in your care environment

- Always make sure you have all your equipment necessary before you go to the person.
- Take a sharps container to point of care.
- Do not re sheath
- Discard of the whole sharp as a single unit.
- Use a receptacle for your equipment; never pass over to someone else to discard.

Managing a sharps injury

- Wash the wound and bleed gently if a needle stick injury
- Dry and cover with a waterproof dressing
- Report it to your line manager
- Fill in appropriate paperwork as per your own policy
- Check your hep B status by having a blood test; you may have to attend minor injuries or A/E.
- Occupational health should be informed if appropriate.
- Although the risk of getting hepatitis B in the care home environment is low anyone who comes into contact with body fluids is at risk and for this reason:
- Hepatitis B immunisation is recommended for protection.
Activity

A new member of staff reports that they have received a sharps injury.

What would your actions be in relation to this? Write the process you would follow.
Daily cleaning of your care environment is important because of the type of population you are looking after. Most of your service users may have physical disability, mental capacity issues or may have become immuno compromised, frail, or are at end of life. This makes your care population an easy target for infection. Germs will take any opportunity to thrive if the conditions are right. This is why keeping your environment free of dust and clutter will assist in reducing the bio burden of these germs that are already in the environment, as they are brought in from relatives visitors, staff, plus the volume of shared communal items that are used in care of your community.

**Equipment cleaning is essential for safety of your service users:**

Hoists, baths, toilet raisers, commodes, walking/standing aids and wheel chairs are all medical devices that you use in the therapeutic care of your residents or service users. You have a responsibility to clean all communal equipment daily or if visibly soiled in between each resident. You should also be aware of the symbol for single use. If you see this on packaging of devices, it means that the device should only be used once on an individual and then discarded.

NB It is only likely to be seen on sterile products such as dressings, syringes, PEG feeding tubes, Catheters etc. However it is something that you need to be aware of.

- For most cleaning/ damp dusting purposes a neutral detergent is all it requires. HOSPEC is used safely in most environment.

- Where there are no en suite facilities for residents commodes need to be single use.

- If used communally any visible soiling with faecal or other fluids matter needs to be cleaned and disinfected with a chlorine Bleach based solution (Milton) this needs to be done after each use.
Mattresses need to be checked monthly to make sure they are in good state of repair and need to be unzipped so that the integrity of the mattress foam underneath is not stained with body fluids. If there is heavy soiling these mattresses will need to be condemned unless a robust decontamination process can be done in a proper facility, or via the manufacturer.

Baths, wheel chairs, hoists and other equipment used in your environment must been cleaned, records kept, regular audit of cleanliness standards and there should also be a written policy.

Activity

Check if you have a cleaning policy and a schedule for monitoring standards.

Check that you have a mattress audit tool and that you are keeping records.

Disinfectants **should not be used** routinely for cleaning the environment. This is because Germs can become resistant to disinfectants in the same way they can become resistant to antibiotics. This is why we need to use them only when required. Disinfectants are sold supermarkets and you use them in your own home, however in a care environment it is better to use a limited supply of products that are recommended for use in health and social care. Never decant or dilute disinfectants’ to save money as it may render the product unsafe or reduce its effectiveness.
Never dilute or decant disinfectant for spraying surfaces.

Milton is usually the disinfectant of choice as it contains bleach which is effective for decontaminating the environment during an outbreak. Disinfectant wipes are also useful for environmental cleaning during an outbreak, or for quick decontamination of surfaces.

Disinfectants are chemicals that have the ability to slow down the growth or kill germs/viruses. They should only be used in specific circumstances.

- Outbreaks of gastroenteritis (Norovirus) Diarrhoea and vomiting.
- When a resident has Clostridium difficile.
- For terminal cleaning following an outbreak, or C difficile.
- Contaminated equipment.
- Spillage of body fluids.
**Noro Virus** causes diarrhoea/and or vomiting and can strike throughout the year; it is sometimes termed as Winter vomiting. When it does occur in the care home environment it is disruptive, because large numbers of residents are usually affected, and it can spread very quickly from person to person including staff. During these periods, the home needs to close to admissions and all affected residents need to be isolated. The exclusion period for staff is for 48hrs after the last symptoms have stopped before they can return to work. Cleaning needs to be increased, and the use of disinfectant to assist in control measures for reducing spread is usually Milton, (Bleach). This should be used for high risk areas such as hand rails, taps sinks and toilets, or where there is high volume use such as commodes.

It is important to contact the Infection control team to let them know you have an outbreak; **Case definition is 2 or more with the same symptoms.** The infection control team will obtain an Incident log number, (ILOG) for completing specimen forms and filling out information on the pot. 3 identifiers have to be on the form and pot, residents name date of birth and preferably NHS number, if you fail to complete the information the laboratory will not process the specimen. This process assists in surveillance of the type of infections circulating in the general community. The infection control team will send a form for you to keep a log of all residents affected and will contact you daily for an update. **Hand washing** is the most important thing you can do to assist in controlling the spread of the virus and using PPE appropriately to protect your uniform from body fluid spillage. When the outbreak is over a deep clean is usually undertaken.

**Clostridium difficile**

This bacterium is present in the gut of around 2-5% of the general population and does not usually cause any problem. The problem mainly occurs after taking a course of antibiotics which alters the guts microflora, allowing the Clostridium bacteria to grow in number. This rise in C difficile causes a series of unpleasant symptoms, through the release of toxins causing diarrhoea and stomach cramps. The bowel can swell and can make someone poorly if it remains undiagnosed. The bacteria also produce **spores** which can be passed out of the human body, surviving for many weeks in the environment, on equipment in the surrounding area, which are highly resistant to disinfectants. Person to person spread is also possible through poor hand washing or inadequate cleaning and decontamination of shared equipment. Getting a specimen from someone with a history of unresolved diarrhoea, recent antibiotic exposure, or hospital admission is important for early diagnosis and treatment. The infection control team need to be contacted if you have concerns about unresolved diarrhoea in a resident. **Hand washing is the most important thing to do to prevent spread of Clostridium difficile.**  **Alcohol Hand gels are not effective for C difficile**
Care of your resident

- You will need to Isolate your resident
- Monitor stools with the Bristol Stool chart
- Keep your resident hydrated give fluids keep a record of what they are drinking
- Make sure they are passing urine.
- Monitor temperature and blood pressure (where possible)
- Contact your infection control team if there are concerns.
- Your infection control nurse will be in contact daily.
- Clean and disinfect the environment each day. (Residents room).
- Take care when handling and transferring laundry to reduce spread of spores.
- Use single use commode or En-suite to reduce cross infection.
- Your resident will require antibiotics to kill the C difficile, in accordance with local guidance.

Activity Noro virus

- How many identifiers have to be on the specimen pot and form in an outbreak Answer ……………
- 2 -3 or 5. Answer ……………
- How many cases defines an outbreak Answer ……………
- What do you use to clean the environment Answer ……………
- Who do you contact for help and advice Answer ……………
- What is the exclusion period for Norovirus Answer ……………

Activity Clostridium difficile

- Clostridium difficile is a bacterium True or False (please circle)
- The bacteria produces toxins and spores True or False
- Clostridium difficile is caused by antibiotics True or False
- You do not have to isolate your resident True or False
- Your resident will not require antibiotics True or False
Activity

For each of the following, list how you would decontaminate each item/ in specific Infections from the options below

- Detergent and water/ Detergent wipes
- Disinfect with Milton
- Cleaning with detergent  and Disinfection with Milton
- Send to laundry

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<thead>
<tr>
<th>Item</th>
<th>Decontamination Method</th>
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<td>Commode</td>
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<td>Toilet seat raiser</td>
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<td>Soiled bed linen</td>
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<td>Hoist sling</td>
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<td>Bath</td>
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<td>Wheel chair</td>
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<td>Walking Frame</td>
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<td>handrails</td>
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<td>Clostridium difficile residents room/ environment</td>
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<td>Norovirus outbreaks residents room/ environment</td>
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<td>Sinks</td>
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<td>Toilets</td>
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<td>Taps</td>
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Laundry Design to Comply with Essential quality requirements CFPP 01-04.

Laundry design should be such that dirty linen is segregated from the clean area where washed clothing is ready for ironing or stored for collection. There should be a clear designated dirty area with a utility sink and a hand washing sink in the clean area. Ideally a 2 door system is more effective to avoid contamination of laundry. Alternatively a line to separate the two areas with clear signage can assist staff in a safe workflow.

Always wear PPE when changing or handling laundry, foul infected linen must be handled carefully to prevent contamination of the environment, or uniform. Red Alginate bags are generally used for infected linen and should be placed in a Secure lidded skip before transfer to the laundry, never drag linen bags across the floor during transfer. Segregation should take place prior to transfer to laundry.

Hoist slings must be cleaned/laundered between use or if visibly soiled with body Fluid.

A washing machine processing soiled infected linen must be capable of reaching 71°C for at least 3 minutes or 65°C for at least 10 minutes. This is essential for Situations such as,

- Outbreaks of diarrhoea
- Unexplained rashes
- Scabies
- Unexplained fever
- Confirmed infections

For Best practice all washing cycles must have either a thermal disinfection Cycle that reaches 71°C for at least 3 minutes /65°C for 10 minutes min or a Chemical disinfection process that satisfies in the section Disinfection of linen. (CFPP 01-04)

A Log book of service and repair should be kept for all washing machines and dryers.

Bedding needs to be clean, comfortable and free from visible soiling. Duvet covers and pillow cases should be laundered weekly, or changed if visibly contaminated with body fluid or spillage.

Some of your service users may have continence problems and therefore may
need linen changes more frequently, i.e. daily depending on need.

Activity

- Soiled linen goes in a clear plastic bag True or False
- There should be a hand washing sink True or False
- Staff do not have to wear PPE True or False
- Foul infected linen is washed at a temperature of 60°C True or False
- To attain Best Practice there needs to be a thermal disinfection cycle True or False

Waste Management 8

Waste management is an important part of your daily practice and you need to understand the different waste streams. It is part of DH legislation from the The Safe Management of Healthcare Waste Memorandum HTB 07-01

Waste can be Toxic, Hazardous, or infectious and therefore needs to be handled segregated and transported with care to prevent risk to staff, public or service users. This also includes the environment.

All staff has a duty of care to ensure that waste is separated into a specific category and placed into the correct waste stream. Never put glass or sharps into a clinical waste bag and never over fill sharps containers, follow the manufacturers guidelines. If storing waste outside of your premises it has to be in a lockable container that cannot be accessed by the general public or pests.

Activity: Find out what the designated bins are for and write the answers.
Purple bins are for

Yellow bins are for

Orange bags are for

Yellow striped bags are for

Black bags are for
<table>
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<tr>
<th>Unit completed</th>
<th>Verified by Manager/ competencies met</th>
<th>Signature of employee</th>
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