

Module One



Cleaning in Healthcare Settings

Developed by
Grampians Region Infection Control Group
Developed 2017 Updated 2020

Modules of learning

There are two modules in this series talking about cleaning in healthcare settings.

These modules are no longer than 15 minutes each.


At the end of each module there is a test your knowledge quiz to be completed, printed and handed to your manager.

- ▶ Module One – Cleaning in healthcare settings
 - ▶ Module Two – Outbreak management for environmental and support services
- 




Welcome to Module One

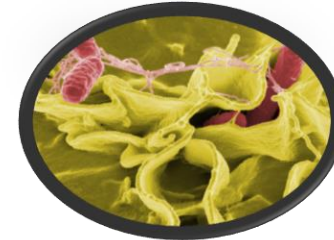
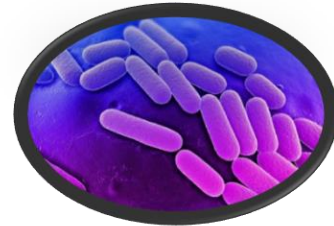
Learning Objectives Module One

1. Reinforce the importance of cleaning.
 2. Revisit infection prevention strategies.
 3. Understand cleaning methods.
 4. Discuss auditing processes.
 5. Introduction to Module 2 *Outbreak Management for Environmental and Support Services.*
- 

Introduction

- ▶ Thorough environmental hygiene is important to prevent the transmission of infectious agents (bugs) within healthcare settings.
 - ▶ The role of the hospital environment as a source of transmission is not fully known, however....
 - ▶ We do know that some infectious agents (bugs) stay on dry surfaces for long periods of time, leading to the potential for transmission from the environment to patients/residents or yourself!
- 

Infectious agents (bugs) can stay on dry environmental surfaces for a long time!



Pathogen	Survival Time
<i>S. aureus</i> (including MRSA)	>12 months
<i>Enterococcus</i> spp. (including VRE)	>48 months
<i>Acinetobacter</i> spp	3 days to 11 months
<i>Clostridium difficile</i> (spore form)	>5 months
Norovirus	8 hours to 28 days (Temp dependent)
<i>Pseudomonas aeruginosa</i>	6 hours to 16 months
<i>Klebsiella</i> spp.	>30 months

Hota B, et al. Clin Infect Dis 2004;39:1182-9

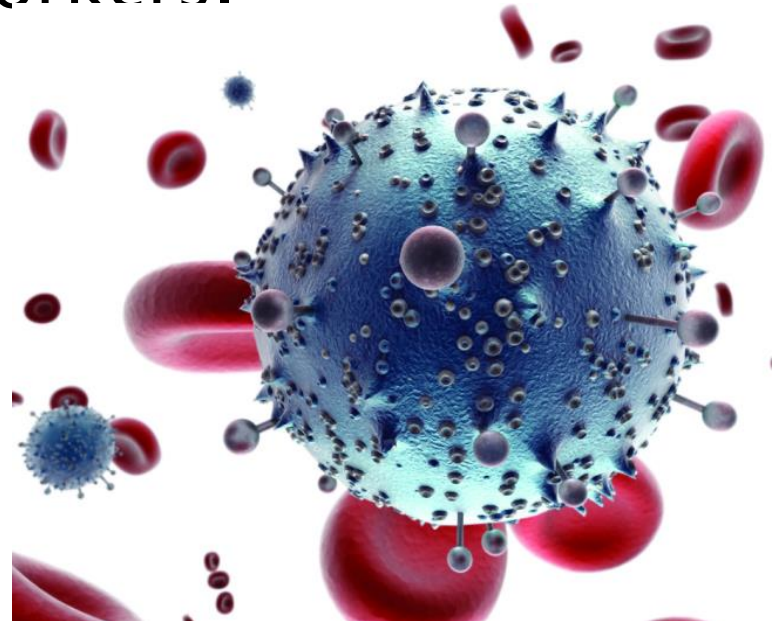
Kramer A, et al. BMC Infectious Diseases 2006;6:130

Importance of cleaning services

- ▶ We know that infectious agents (bugs) can be widely found in healthcare settings, after all the goal is to get sick people better!
- ▶ Environmental cleaning has an important role to play in reducing the number of infectious agents (bugs) that may be present on surfaces, and minimise the risk of transfer of these agents from one person or object to another.

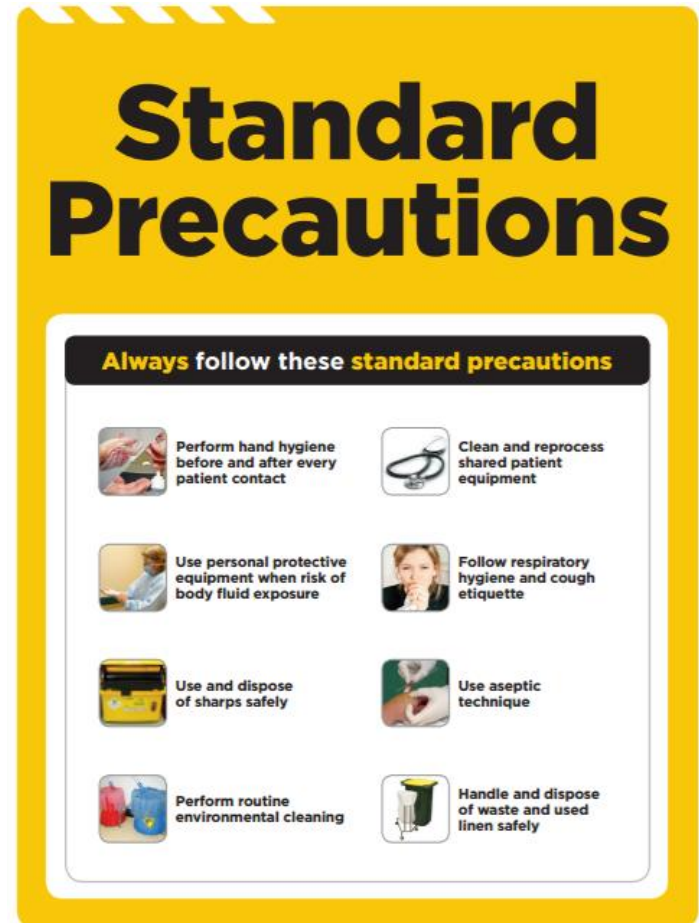
Importance of cleaning services

- ▶ Routine cleaning and disinfecting of surfaces plays a significant role in reducing infectious agents (bugs) in the environment, and in turn reduces the risk of acquiring a healthcare associated infection for all patients/residents, visitors and healthcare workers.



Protecting yourself and others!

- ▶ Standard precautions are used at all times by all healthcare workers as required. They are:
 - 5 Moments of hand hygiene.
 - Clean and reprocess shared patient/resident equipment.
 - Use of personal protective equipment.
 - Respiratory hygiene and cough etiquette.
 - Appropriate handling and disposal of sharps and sharps containers.
 - Using an aseptic technique for clinical procedures.
 - Routine environmental cleaning.
 - Appropriate waste management and handling.
 - Appropriate linen management and handling.



Hand hygiene – 5 moments

Hand hygiene helps to prevent the spread of infection on the hands of health care workers/carers to patients/residents and the environment.


If gloves are worn during cleaning ABHR remains the product of choice for hand hygiene; and if gloves have not been worn or hands are visibly soiled, they must be washed with soap and water.

The 5 moments when you would perform hand hygiene are:

1. Before starting to clean an area.
2. After cleaning one area and before moving onto the next area in the same room – e.g. bedroom, hand hygiene, then bathroom.
3. After blood or body fluid contact.
4. After finishing cleaning each area.
5. After touching a patient/resident's immediate surroundings.



Personal Protective Equipment (PPE)

- ▶ PPE is used to protect your skin and clothing from contamination.
 - ▶ PPE is used when:
 - There is potential contact with someone else's blood or body substances.
 - For transmission based precautions (isolation) for infectious diseases.
 - ▶ There is a way this PPE is put on and taken off to prevent contamination of your skin or clothing and the environment around you. This is shown on the next slide.
- 

PPE On



Perform hand hygiene

Put on gown

Put on mask

Apply protective eyewear such as goggles or face shield

Apply gloves

PPE Off



Remove gloves

Perform hand hygiene

Remove protective eyewear such as goggles or face shield

Remove gown

Perform hand hygiene

Remove mask

Perform hand hygiene

What is cleaning

- ▶ Cleaning is a process intended to physically remove foreign material from a surface or an object through the use of mechanical action.



Examples of foreign material are:

- Dust
- Soil
- Blood
- Secretions
- Excretions
- Infectious agents (bugs)

Cleaning products

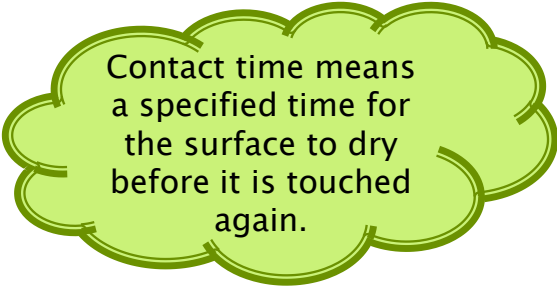
Healthcare facilities may choose the type of cleaning products they wish to use, however these products must either “listed” or “registered” with the Therapeutics Goods Administration (TGA). Products can be checked to see if they are on the [Australian Register of Therapeutic Goods \(ARTG\) here](#)

There are two types of products used alone or in combination depending on where you are cleaning:

1. Detergent – to remove the dust, dirt and grease, loosen the infectious agent (bugs)
2. Disinfectant – chemical that kills the infectious agent (bugs)

The cleaning products chosen need to be used following three principles:


1. Friction
2. Pressure
3. Contact time



Contact time means a specified time for the surface to dry before it is touched again.

Cleaning products

Important factors to remember for using cleaning products:

- You have been given education on the product.
 - Products should always have a safety data sheet (SDS) available and easily accessible.
 - Always follow the manufacturers instructions for dilution and use including contact time.
 - Expiry dates are checked often.
 - Personal protective equipment (PPE) is available for use when using these products.
 - They are stored safely.
 - Report any safety issues immediately to the person in charge.
- 

Cleaning methods

General cleaning uses a one step process:

- ❑ **Step One – Clean:** Clean with detergent and warm water (other methods include microfiber, wipes and steam).

There will be times when further steps are required and cleaning becomes a three step process:

- ❑ **Step One – Clean:** Clean with detergent and warm water (other methods include microfiber, wipes and steam).
- ❑ **Step Two – Disinfect:** If there is blood, or blood stained body fluid, vomit or faeces visible on the surface or equipment you are cleaning, or during an outbreak, then a second step is required. After the clean with detergent and warm water the surface is wiped over with a disinfectant of 1000 ppm (parts per million) of available chlorine diluted according to manufacturer's instructions. Then a third step is required.
- ❑ **Step Three – Rinse/Dry:** The disinfectant must be left on surfaces for ten minutes then rinsed with cold water and dried.

Cleaning methods

If healthcare facilities use an alternative method for cleaning and disinfection such as microfibre or wipes, the method must be validated to be equivalent to the previous slide steps.

The 2-in-1 combined cleaning and disinfecting method allows for a 1-step cleaning and disinfection process as opposed to the 3-step (clean, disinfect, then rinse/dry). There are a number of 2-in-1 detergent and disinfectant products available that are simple and effective to use.

It is important to check the 1-step cleaning product information sheet to confirm it is effective against the infectious agent (bug) you are dealing with if it used for anything other than a general clean.

It is important to ensure the manufacturers' instructions are followed for correct dilution and use including contact time (a specified time required for the surface to dry before it is touched again).

Five golden rules of cleaning



General Cleaning

The Five Golden Rules of Cleaning

1. Work from Clean to Dirty

Start the cleaning process in the cleanest areas and finish in the dirty areas. This method helps to prevent cross infection as it stops contamination of clean areas with soil, thereby decreasing the risk of contamination.

2. Work from High to Low

This method also helps to prevent cross infection and contamination.

3. Leave all Surfaces Clean and Dry

It is important to leave cleaned surfaces as dry as possible. This prevents mould and bacterial growth, and helps prevent accidents.

4. Change Cleaning Solutions and Cloths Often

One of the main causes of contamination is the use of one cloth and bucket for all cleaning. Changing to a fresh cloth and fresh solution significantly reduces bacterial growth and bad odours, with better cleaning results.

5. Wash Your Hands Often

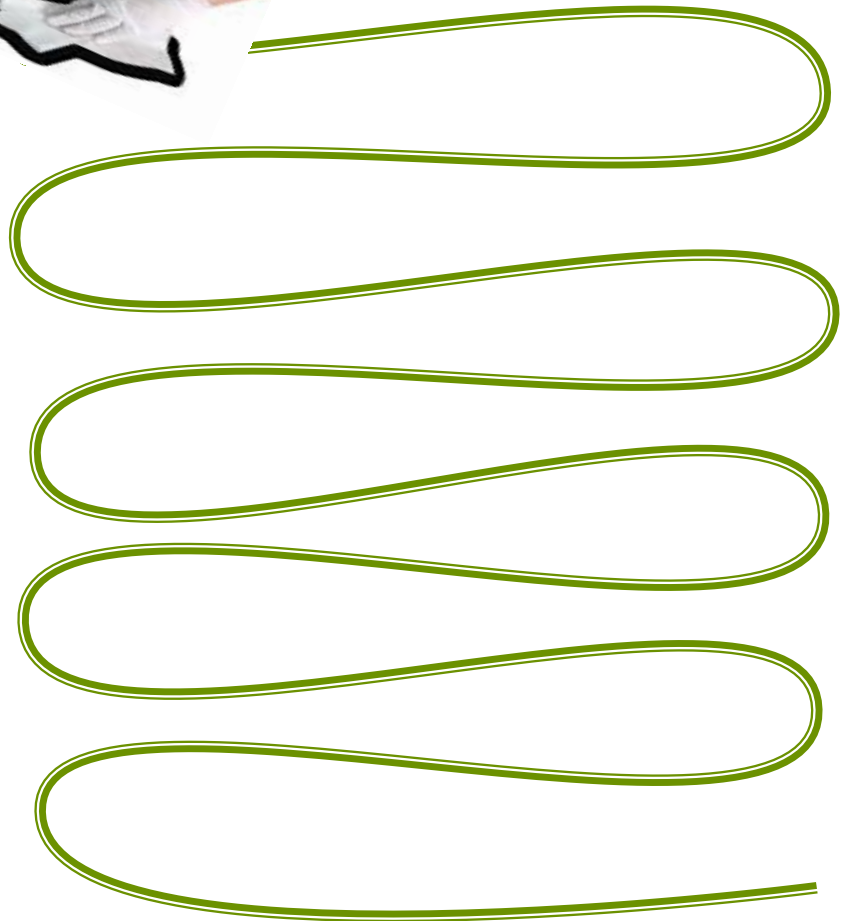
Dirty hands soil clean surfaces. Contaminated hands are the primary cause of cross infection.

How to clean

When cleaning wipe from top to bottom going from clean to dirty using an 'S' shaped motion. Overlap slightly to avoid missing areas but never wipe over the previous area. This reduces the number of microorganisms you move from the soiled area into a clean area.

Run your mouse over the lines to practice the cleaning motion.

Start here



Finish here

Frequently touched surfaces

- Frequently touched surfaces are areas near the patient/resident. Because of their frequent use, these surfaces are more likely to harbour infectious agents (bugs) increasing the risk of infection.



Frequently touched surfaces

- Examples of frequently touched areas are:

Bed frame and cot sides	Overbed table
Bed controls	Bedside locker
Nurse call button	TV remote and phone
Light switch	Patient chair
Door handles	IV pole and pumps

What are the frequently touched surfaces in this room? Check how you did in the next slide!



How did you go?

Click the mouse or down arrow to see the frequently touched surfaces



How clean is your health service?

- ▶ We don't know how clean your health service is unless we audit.



- ▶ Each health service will audit areas randomly. How often is up to the individual health service, but is usually based on previous audit results.
- ▶ There is a Victorian acceptable quality level of 85% for low risk areas (e.g. offices) and up to 90% for very high risk areas (e.g. theatre).

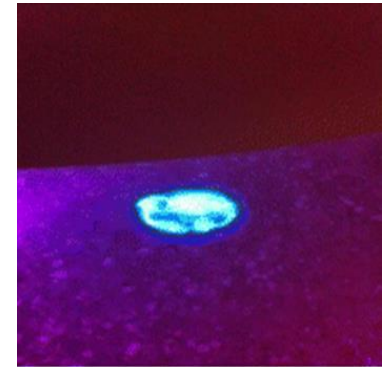
Auditing

Audits are conducted using two methods to identify areas for improvement:

1. Visual Auditing using the acceptable quality level of 85% for low risk areas (e.g. offices) and up to 90% for very high risk areas (e.g. theatre).
2. To support the visual auditing there is also Ultraviolet light Auditing. It is not possible to see if cleaning has been effective because we cannot see if infectious agents (bugs) are hiding in dirt that has NOT been removed from a surface. Ultraviolet light (UV) testing will help identify if any areas have not been cleaned thoroughly.

UV testing comprises of a gel dot (mimicking infectious agents/ bugs) placed in a few spots of the area that is about to be cleaned, usually the frequently touched surfaces. When cleaning is complete the areas where the gel had been placed are looked at with an ultraviolet light to see if the gel has been removed.

You can see if cleaning has been adequate and the surface has really been cleaned if there is no gel visible after cleaning.



Before marked surface was wiped



After marked surface was wiped

Why UV testing is useful!

- ▶ The results of UV testing of the environment can help with reviewing current cleaning practices.




- ▶ It is not intended to be a check on how well you are doing your job. UV testing is used to identify if the products and techniques used to clean are appropriate, and if they have been effective, and if any improvements can be made!

Further information

- ▶ The second module in this series is called *Outbreak Management for Environmental and Support Services* and goes into detail about outbreak cleaning. This should be completed after this module.
- ▶ Some fast facts for outbreak cleaning are on the next 2 slides to introduce you to module two.



Outbreak Cleaning – fast facts!

- ▶ You cannot disinfect a soiled surface.
 - Must clean up soil with soap and water before disinfecting.
 - ▶ A disinfectant must be used, not just a detergent.
 - ▶ A new solution and cleaning equipment must be used for each new area/room.
 - ▶ Use PPE as directed to protect yourself.
 - ▶ Remove PPE correctly to stop contamination of yourself and the environment and prevent infection transmission.
- 

Outbreak Cleaning – fast facts!

- ▶ Must follow the manufacturers instructions to ensure the correct dilution of your disinfectant – 1000 ppm of available chlorine.
- ▶ Chlorine products can come in:
 - Liquid
 - Powder
 - Tablet
 - Wipes.
- ▶ Check your product label for instructions before use.
 - Safety precautions
 - How much product is needed to achieve 1000 ppm
 - How to use the product correctly
 - Contact time required
 - Use by date.



Outbreak Management

- ▶ If you don't know what to do, ask!
- ▶ For more information complete:
Module Two –
*Outbreak
Management for
Environmental and
Support Services.*

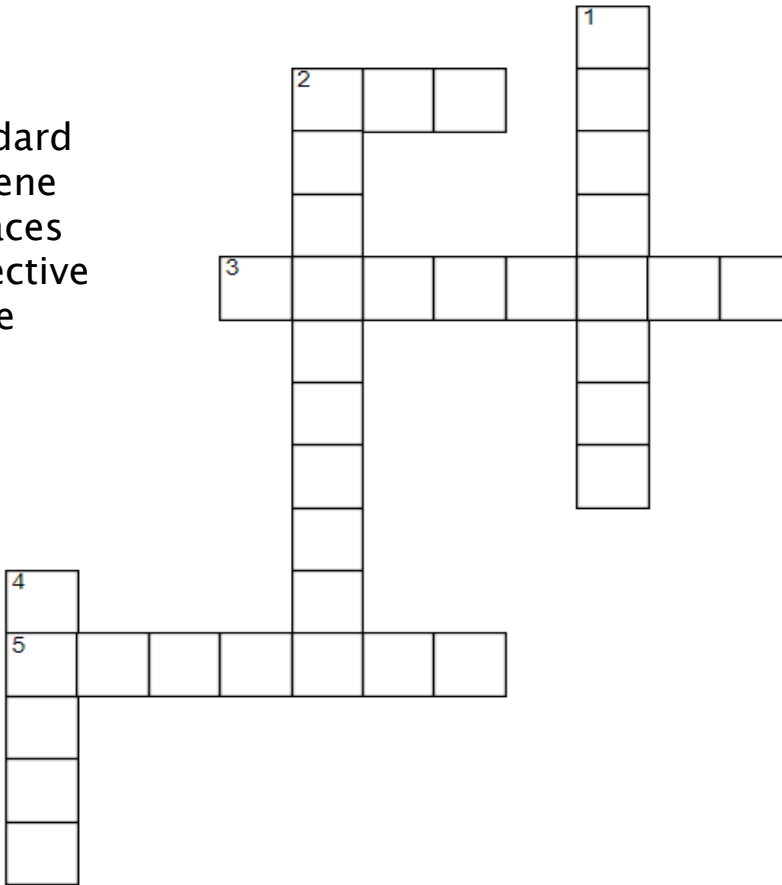


Test your knowledge

Print and complete

Name:

PPM
Standard
Hygiene
Surfaces
Protective
Three



Across

- 2 Surfaces soiled with blood, body fluid, faeces or vomit must be cleaned with detergent and water followed by wiping with a solution of 1000 --- of available chlorine.
- 3 ----- precautions are used at all times.
- 5 There are 5 moments of hand -----.

Down

- 1 Frequently touched ----- are areas near the patient/resident.
- 2 Always protect yourself and use personal ----- equipment whenever necessary.
- 4 A "----- step" cleaning process is clean, disinfect, rinse/dry.

References / further reading

- ▶ Axel Kramer, Ingeborg Schwebke and Günter Kampf. *BMC Infectious Diseases*. How long do nosocomial pathogens persist on inanimate surfaces? A systematic review. Article number: 130 (2006).
- ▶ Robert A. Weinstein, Bala Hota. *Clinical Infectious Diseases*. Contamination, Disinfection, and Cross-Colonization: Are Hospital Surfaces Reservoirs for Nosocomial Infection? Volume 39, Issue 8 (2014).
- ▶ NHMRC (2019). Australian Guidelines for the Prevention and Control of Infection in Healthcare. Commonwealth of Australia.
- ▶ A guide for the management and control of gastroenteritis outbreaks in aged care, special care, health care and residential care facilities (December 2018). Communicable Disease Prevention and Control Unit, Department of Health and Human Services, Victoria.
- ▶ Respiratory illness in residential and aged care facilities – guidelines and information kit (April 2018). Department of Health and Human Services, Victoria.
- ▶ Victorian guideline on carbapenemase-producing Enterobacteriaceae for health services (V2.1 2018). Department of Health and Human Services, Victoria.
- ▶ Victorian guidelines on *Candida auris* for health services (V1 2019). Department of Health and Human Services, Victoria.
- ▶ Grampians Region Infection Control Group (GRICG). Screening for Resistant Organisms Flowchart (V2 2019).