

# Infection Prevention and Control Induction Program



Grampians Region Infection Control Group  
Original 2015 updated February 2019

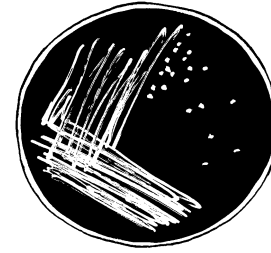
# Introduction

This is an introduction to the basics of infection prevention and control.

This presentation will discuss the following:

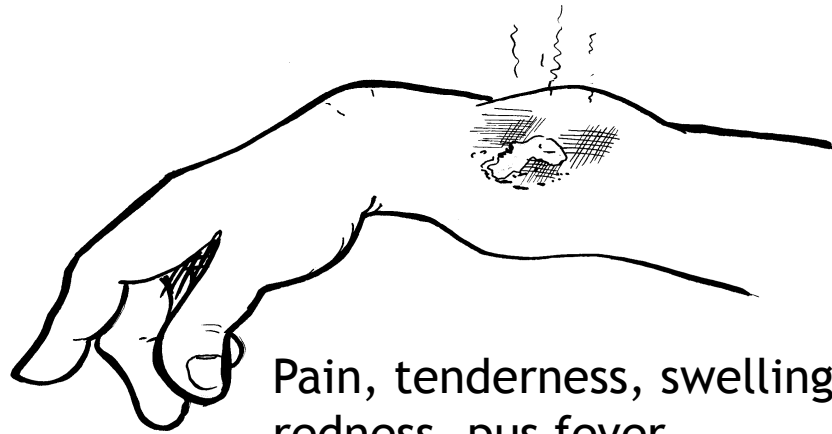
- ▶ what is an infection
- ▶ how microorganisms are transmitted
- ▶ strategies we use in our everyday practice to reduce the risk of infection transmission to ourselves, patients/residents and visitors, and
- ▶ your health and safety.

# What is an Infection?



An infection occurs when invading microorganisms cause ill health such as:

- ▶ Viruses
- ▶ Bacteria
- ▶ Fungi
- ▶ Parasites
- ▶ Prions



Pain, tenderness, swelling,  
redness, pus fever

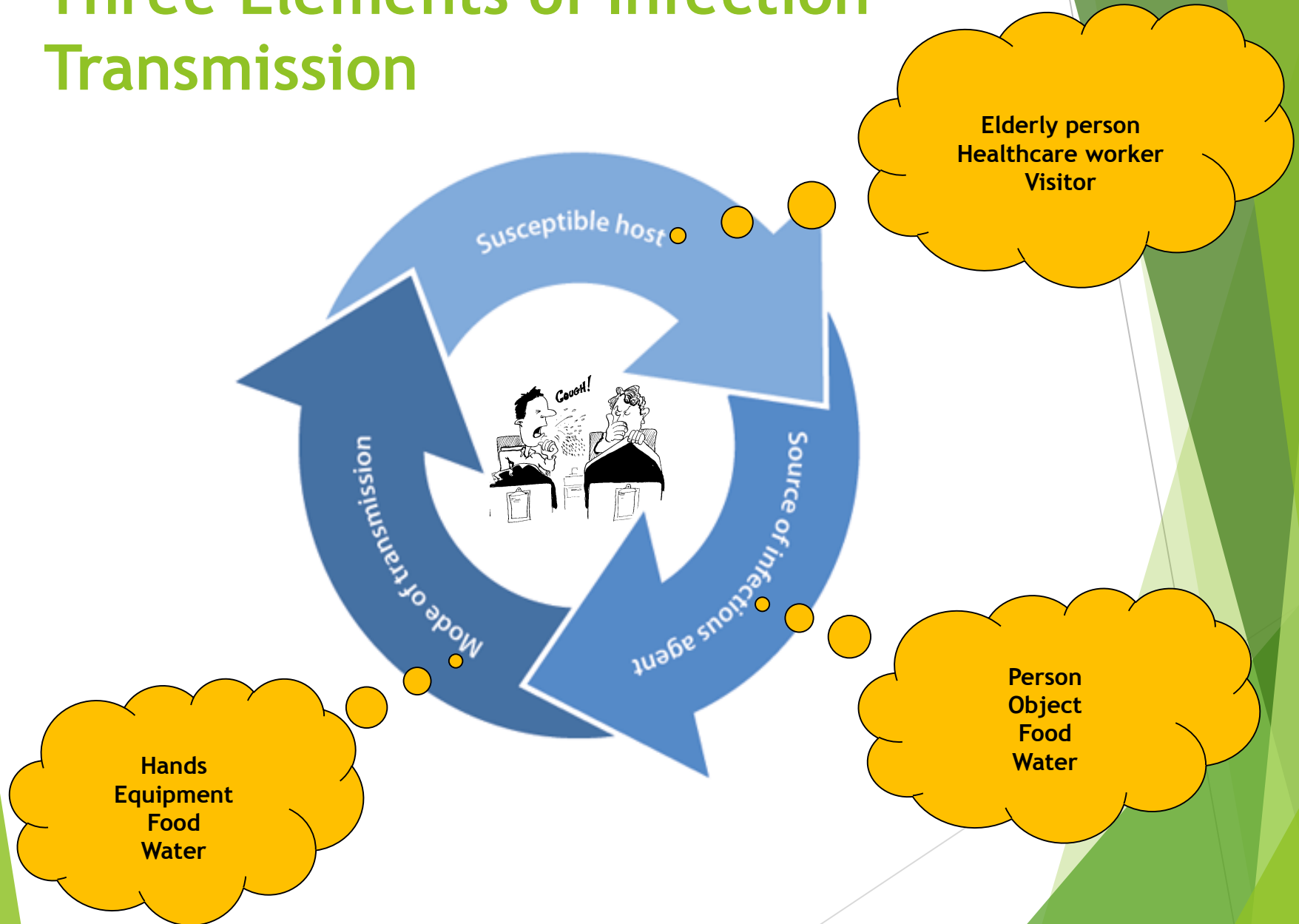
# Microbial Reservoirs

Microbes can survive in many environments:

- ▶ on or in people, as normal flora
- ▶ on or in people who have infections
- ▶ on or in animals as normal flora or infections
- ▶ contaminated food or fluids
- ▶ contaminated articles, and
- ▶ contaminated environment.



# Three Elements of Infection Transmission



# Methods of Reducing the Spread of Infectious Agents

Successful infection prevention and control involves implementing work practices that prevent the transmission of infectious agents through a two-tiered approach:

1. **Standard Precautions**
2. **Transmission-Based Precautions**



# Being Alert for infection

Infection prevention and control alert screening for all presentations to the emergency department or urgent care, and all admissions, will assist with the timely and appropriate implementation of transmission based precautions.

This will reduce the risk of infection transmission and potential outbreaks.

Place Health Service Logo Here		UR Number: _____ Surname: _____ Given Name: _____ DOB: _____ <i>Affix patient/ resident label</i>	
<b>Infection Prevention and Control Alert Screening</b> To be completed for all Emergency Department/Urgent Care Presentations and all Admissions			
<b>Alert Screening Questions</b>		<b>Yes</b>	<b>No</b>
1. Have you travelled overseas within the last <b>21 days</b> to any of the following areas: Middle East, Asia, China, West Africa or other? <i>Name the country(ies) visited:</i>			
If yes to the above question do you have any of the following symptoms (circle symptoms): Fever, headache, vomiting, diarrhoea, unexplained bleeding or bruising, rash, muscle pain, or cough?		<input checked="" type="checkbox"/>	
2a. Have you been transferred directly from an overseas healthcare facility, <u>OR</u> in the last <b>12 months</b> had an overnight stay in an overseas healthcare facility (hospital, residential care, rehabilitation facility, or clinic including cosmetic or dental)? <i>If yes, name the facility and location here:</i>			
2b. Have you been transferred directly from, or referred by, an Australian healthcare facility (hospital, residential care, rehabilitation facility, or clinic including cosmetic or dental)? <i>If yes, name the facility and location here:</i>			
3. Have you been in isolation in a healthcare facility in the last <b>12 months</b> (shared room or single room, staff wearing gowns, gloves and/or mask at all times when providing your care)? <i>If yes, name the facility and location here:</i>			
4. Have you been advised you have MRSA (Golden Staph), VRE, CRE, CPE, C Diff or an ESBL in the past (see below for full names of acronyms) or other resistant organism? <i>If any of the above or other, write the name here:</i>			
5. Have you had 3 or more loose bowel actions and /or vomiting in the last <b>24 hours</b> (refer to definition for diarrhoea below)?			
6a. Do you have an Influenza like illness?  If yes to the above question do you have any of the following symptoms (circle symptoms): At least one of the following respiratory symptoms; cough (new or worsening), sore throat or shortness of breath, <b>AND</b> At least one of the following systemic symptoms; fever, malaise, headache, myalgia (sore muscles).		<input checked="" type="checkbox"/>	
6b. Have you had nose and/or throat swabs taken? <i>If yes, do you know the results? Write here:</i> If no, nose and/or throat swabs will be taken if symptoms above have been circled.			
<b>For Nurse Use Only:</b>			
Admitted		Yes <input type="checkbox"/> Admission Ward/Unit: No <input type="checkbox"/>	
If answered YES to any of the above questions, make further assessment and implement the relevant precautions. <b>Refer to Management of Resistant Organisms Flowchart.</b>		Tick precautions initiated: Standard <input type="checkbox"/> Contact <input type="checkbox"/> Droplet <input type="checkbox"/> Airborne <input type="checkbox"/>	
If answered YES to any of the above questions send a copy of this form to Infection Prevention and Control (IPC). Immediately and notify the person in charge.		Tick when completed: Copy sent to IPC <input type="checkbox"/> Person in charge notified <input type="checkbox"/>	
<b>Print name</b>		<b>Designation</b>	
<b>Signature</b>		<b>Date</b>	
MRSA	Methicillin-resistant Staphylococcus aureus	VRE	Vancomycin-resistant Enterococci
CRE	Carbapenem-resistant Enterobacteriaceae	CPE	Carbapenemase-producing Enterobacteriaceae
ESBL	Extended spectrum beta-lactamase	C Diff	Clostridium difficile
Diarrhoea For an individual person diarrhoea is three or more loose bowel actions categorised as a 6 or 7 on the Bristol Stool Chart			

Infection Prevention and Control Alert Screening



# Tier One Standard Precautions



- ✓ Hand hygiene
- ✓ Respiratory hygiene and cough etiquette
- ✓ Personal protective equipment
- ✓ Aseptic technique
- ✓ Appropriate reprocessing of reusable instruments and equipment
- ✓ Appropriate handling and disposal of sharps
- ✓ Use of environmental controls
- ✓ Appropriate waste management
- ✓ Appropriate handling of linen

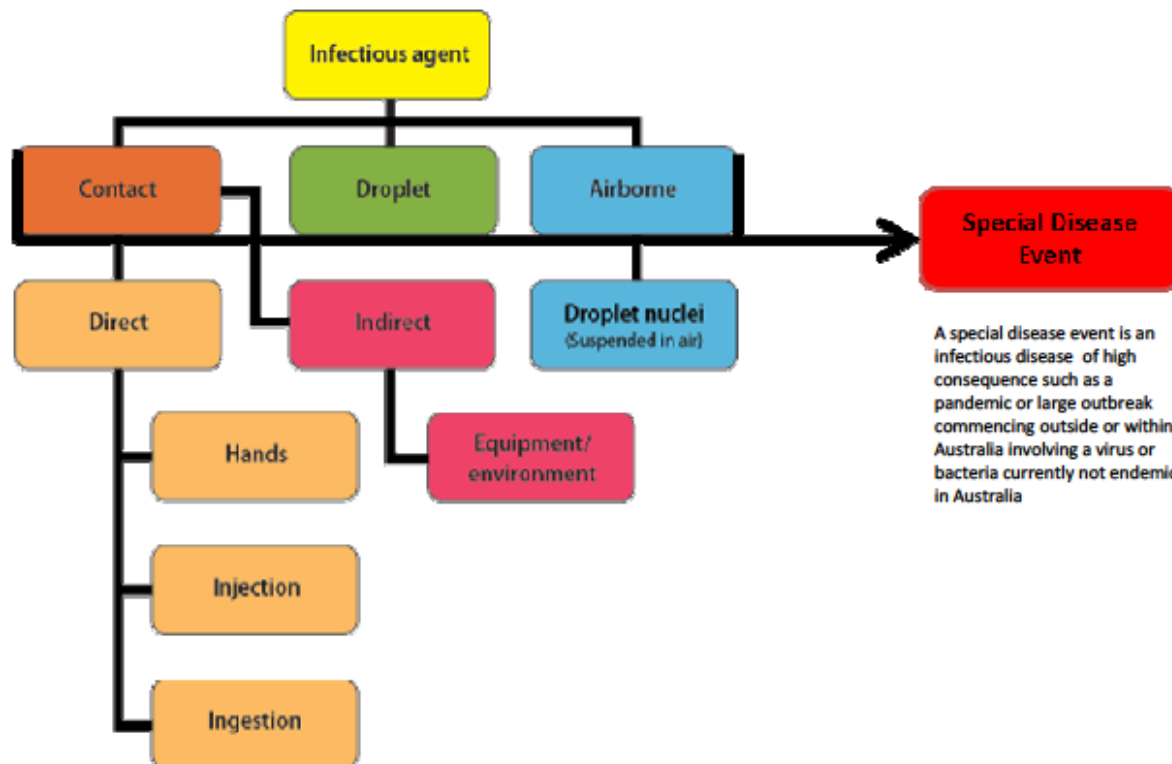




# Tier Two

## Transmission Based Precautions

Transmission based precautions are based on the mode of transmission. The below chart shows how infectious agents could be transmitted:



# Transmission Based Precautions

## Contact Transmission

1. **Direct contact** with another person can transmit their microbes to you by hands, injection or ingestion.
2. **Indirect contact** is when a third person or an article transmits the microbes from one person to another through equipment or the environment.

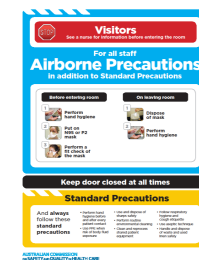


**Droplet transmission** occurs when **large** respiratory droplets, that are heavy and travel short distances before dropping onto something or someone.

**Airborne transmission** occurs when a **fine** spray is coughed into the air and can be carried on air currents for a long distance.

**Special Disease Event: All 3 modes of transmission**

A special disease event is an infectious disease of high consequence such as a pandemic or large outbreak commencing outside or within Australia involving a virus or bacteria currently not endemic in Australia. Instructions for PPE requirements will be given at the time of this event.



# Transmission Based Precautions

- ▶ Single room with ensuite.
- ▶ Cohorting if single room not available and dedicated toilet.
- ▶ Special ventilation requirements may be required.
- ▶ Additional use of protective equipment.
- ▶ Rostering of immune staff to care for infectious patients.
- ▶ Dedicated patient equipment.
- ▶ Enhanced cleaning.
- ▶ Restricted movement of patients, staff and visitors.



# STANDARD AND TRANSMISSION-BASED PRECAUTIONS GUIDE

Type of precautions	Examples of infectious agents	Single room or cohort	Gloves	Gown	Mask	Eye protection	Handling of equipment	Visitors*	Cleaners' instructions
<b>Standard</b>	Standard precautions apply for all work practices to prevent the likelihood of transmission of infection.							Hand hygiene Respiratory hygiene and cough etiquette	Clean room as normal
<b>Contact</b>	Multi resistant organisms( MROs) e.g. MRSA, nm-MRSA, VRE, <i>Clostridium difficile</i> , gastroenteritis (e.g. norovirus), highly contagious skin infections, conjunctivitis, Hepatitis A, shingles, Carbapenemase-producing Enterobacteriaceae (CPE)	✓	✓	✓	✱	✱	Preferably single use or reprocess before reuse on next patient	Same precautions as staff	Clean with bleach solution at least daily and on discharge
<b>Droplet</b>	Influenza, Respiratory Syncytial Virus (RSV), pertussis (whooping cough), meningococcus or any suspected bacterial meningitis until results are known, German measles (Rubella)	✓	✱	✱	✓ surgical mask	✱	Preferably single use or reprocess before reuse on next patient	Restrict visitor numbers and precautions as for staff	Clean with bleach solution at least daily and on discharge
<b>Airborne</b>	Pulmonary Tuberculosis (TB), chickenpox (varicella) #, measles (rubeola) #, Severe Acute Respiratory Syndrome (SARS),	✓ Negative pressure	✱	✱	✱P2 (N95) Respirator	✱	Single use or reprocess before reuse on next patient	Restrict visitor numbers and precautions as for staff	Clean with bleach solution at least daily and on discharge
<b>Special Disease Events Precautions</b>	Examples: Ebola Virus, Middle East Respiratory Syndrome (MERS). These precautions may require a combination of all three transmission based precautions, and if needed staff will be trained on what to do. Special Disease Event Precautions will only be needed for a highly infectious bacteria or virus that is new to Australia, or not usually seen in the Grampians region.								

## Notes:

- ✓ Essential component of transmission-based precautions
- ✱ Surgical mask required if infectious agent isolated in sputum. For gastroenteritis wear a mask if there is potential of patient vomiting while you are in the room
- ✱ As required — Gloves to be worn whenever there is the potential of direct or indirect contact with blood or body substances  
Gowns to be worn for procedures when there is the potential of direct or indirect contact to body substances  
Face and eye protection to be worn when there is the potential of exposure to splashes or sprays to mucosa (including during aerosol-generating procedures)
- \* Visitors should be given instruction about correct procedures when transmission-based precautions are applied and given appropriate resources to support them in meeting these requirements.
- ✱ P2 (N95) Respirator masks are available in the Urgent Care Centre store room in the SARS box or in the outbreak room on 2<sup>nd</sup> floor.
- # If staff or visitor HAS HAD chickenpox / measles in the past or vaccination for these diseases, mask, gown and gloves are not required

Source: Adapted from Table B2.1 Australian Guidelines for the Prevention and Control of Infection in Healthcare, 2010. p107.

**Visitors**  
See a nurse for information before entering the room

**For all staff**  
**Contact Precautions**  
In addition to Standard Precautions

Before entering room	On leaving room
1 Perform hand hygiene	1 Dispose of gloves
2 Put on gown or apron	2 Perform hand hygiene
3 Put on gloves	3 Dispose of gown or apron
	4 Perform hand hygiene

**Standard Precautions**

And always follow these standard precautions

- Perform hand hygiene before and after every patient contact
- Use PPE when risk of body fluid exposure
- Use and dispose of sharps safely
- Perform routine environmental cleaning
- Clean and reprocess shared patient equipment
- Follow respiratory hygiene and cough etiquette
- Use aseptic technique
- Handle and dispose of waste and used linen safely

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**Visitors**  
See a nurse for information before entering the room

**For all staff**  
**Droplet Precautions**  
In addition to Standard Precautions

Before entering room	On leaving room
1 Perform hand hygiene	1 Dispose of mask
2 Put on a surgical mask	2 Perform hand hygiene

**Standard Precautions**

And always follow these standard precautions

- Perform hand hygiene before and after every patient contact
- Use PPE when risk of body fluid exposure
- Use and dispose of sharps safely
- Perform routine environmental cleaning
- Clean and reprocess shared patient equipment
- Follow respiratory hygiene and cough etiquette
- Use aseptic technique
- Handle and dispose of waste and used linen safely

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**Visitors**  
See a nurse for information before entering the room

**For all staff**  
**Airborne Precautions**  
In addition to Standard Precautions

Before entering room	On leaving room
1 Perform hand hygiene	1 Dispose of mask
2 Put on N95 or P2 mask	2 Perform hand hygiene
3 Perform a fit check of the mask	

**Keep door closed at all times**

**Standard Precautions**

And always follow these standard precautions

- Perform hand hygiene before and after every patient contact
- Use PPE when risk of body fluid exposure
- Use and dispose of sharps safely
- Perform routine environmental cleaning
- Clean and reprocess shared patient equipment
- Follow respiratory hygiene and cough etiquette
- Use aseptic technique
- Handle and dispose of waste and used linen safely

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# Precaution Signage

These signs are used individually or in combination. Always follow instructions if this signage is on the door, and if you are not sure what to do ask!

# Hand Hygiene

Staff hands are the most common vehicle for infection transmission from:

- ▶ direct contact with patients/residents  
microbial hand flora
- ▶ transient microbial hand flora, organisms  
picked up from contact with persons or  
articles, or
- ▶ infectious hand conditions such as  
dermatitis and paronychia (bacterial or  
fungal infection of the nails).

# Hand Hygiene refers to:

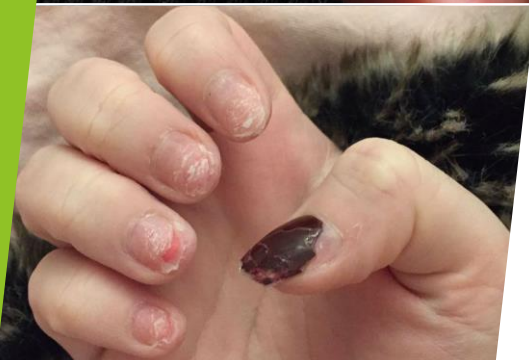
- ▶ Hand washing using soap and water.
- ▶ Hand decontamination using alcohol based hand rub.
- ▶ There will be posters throughout the health service on correct methods for hand hygiene using these 2 methods.





# Strategies to support successful hand hygiene

- ▶ Don't bite nails.
- ▶ Keep nails short.
- ▶ Get skin conditions assessed by a medical practitioner to ensure appropriate treatment and reduce the risk of infection transmission.
- ▶ No fake nails or nail polish.
- ▶ Plain wedding ring only.
- ▶ No wrist watches.
- ▶ Cover any cuts or abrasions on hands with a water proof dressing.
- ▶ Adhere to the 5 moments of hand hygiene!



# 5 moments for HAND HYGIENE

Online Learning Packages Available

Standard

Medical

Nursing/Midwifery

Allied health

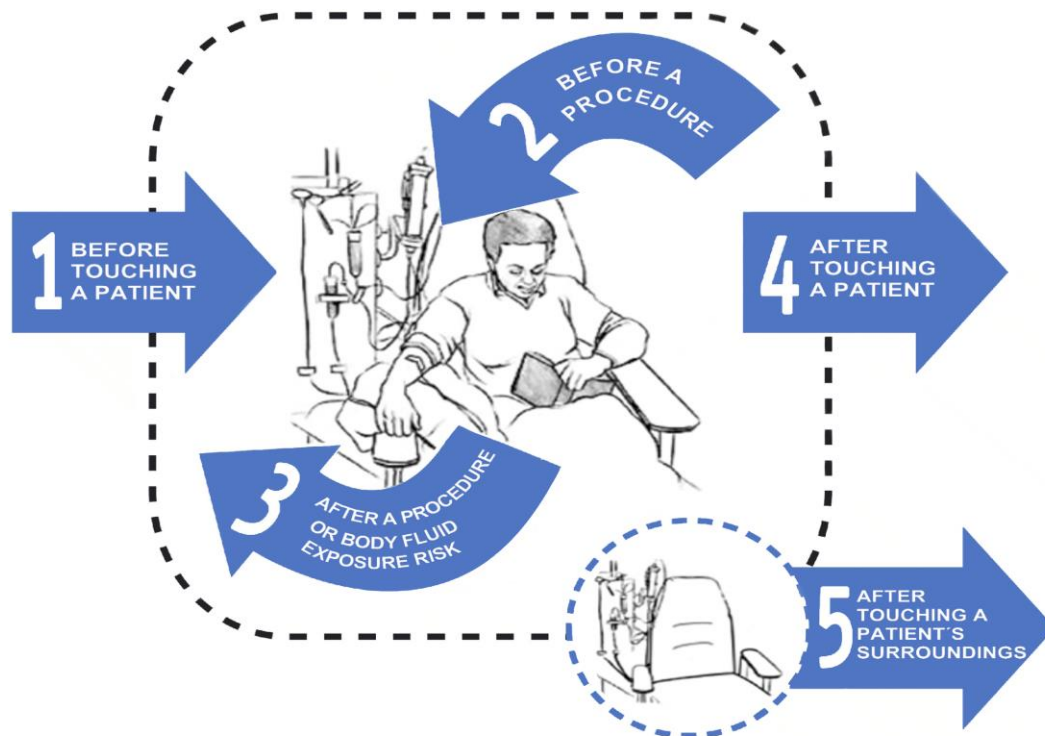
Non Clinical

Student Health Practitioners

Others

<https://www.hha.org.au/online-learning/learning-module-information>

# 5 Moments for HAND HYGIENE



<b>1 BEFORE TOUCHING A PATIENT</b>	<p><b>When:</b> Clean your hands before touching a patient and their immediate surroundings.</p> <p><b>Why:</b> To protect the patient against acquiring harmful germs from the hands of the HCW.</p>
<b>2 BEFORE A PROCEDURE</b>	<p><b>When:</b> Clean your hands immediately before a procedure.</p> <p><b>Why:</b> To protect the patient from harmful germs (including their own) from entering their body during a procedure.</p>
<b>3 AFTER A PROCEDURE OR BODY FLUID EXPOSURE RISK</b>	<p><b>When:</b> Clean your hands immediately after a procedure or body fluid exposure risk.</p> <p><b>Why:</b> To protect the HCW and the healthcare surroundings from harmful patient germs.</p>
<b>4 AFTER TOUCHING A PATIENT</b>	<p><b>When:</b> Clean your hands after touching a patient and their immediate surroundings.</p> <p><b>Why:</b> To protect the HCW and the healthcare surroundings from harmful patient germs.</p>
<b>5 AFTER TOUCHING A PATIENT'S SURROUNDINGS</b>	<p><b>When:</b> Clean your hands after touching any objects in a patient's surroundings when the patient has not been touched.</p> <p><b>Why:</b> To protect the HCW and the healthcare surroundings from harmful patient germs.</p>

# Respiratory Hygiene and Cough Etiquette



If you cough  
or sneeze  
cover your  
mouth with a  
tissue



Dispose of the  
soiled tissue  
in the rubbish  
bin

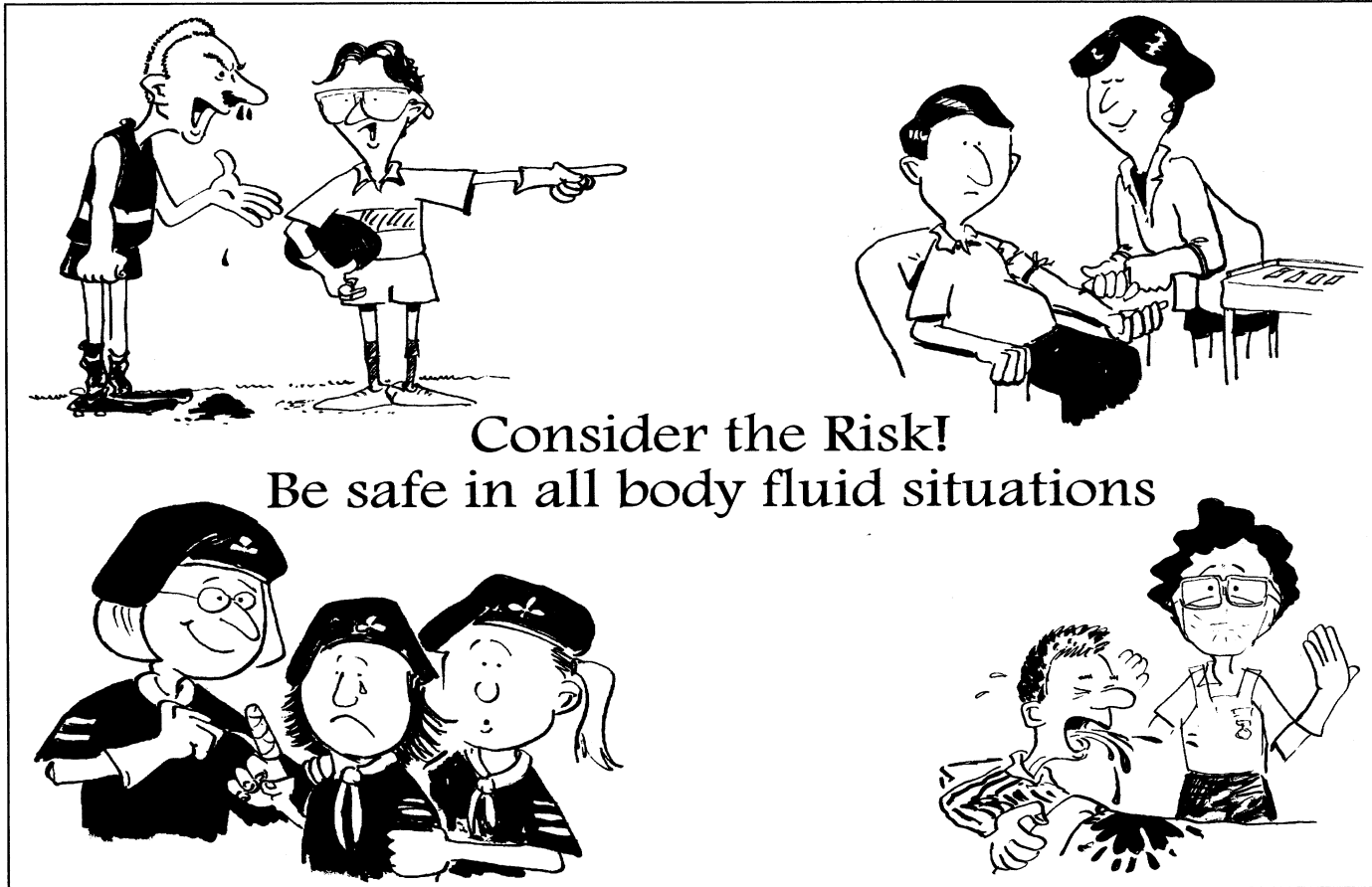


If you do not  
have a tissue  
cough or  
sneeze into  
the inside of  
your arm



Clean your  
hands  
afterwards

# Personal Protective Equipment





# Gloves

- ▶ Used when contact with body fluids is anticipated.
- ▶ Single use - must be discarded after patient contact.
- ▶ Must perform hand hygiene after removal of gloves.



# Gowns

Used when  
contact or splash  
with body fluids  
is anticipated

Reusable gowns  
must be placed  
into the linen skip  
immediately after  
use and must not  
be reused

Single use gowns  
must be  
discarded  
immediately after  
each episode of  
care

Hand hygiene  
must be  
performed after  
removing gowns



# Masks

## Surgical Mask or P2/N95 Respirator

- ▶ Single use item.
- ▶ Use surgical mask when splash with body fluids is anticipated.
- ▶ P2/N95 for airborne diseases.
- ▶ Fit check each time you put a mask on.
- ▶ Replace when moist.
- ▶ Dispose of directly into waste bin.
- ▶ Perform hand hygiene before and after removal.





Danger Zone for Absorption

- ✧ Eyes
- ✧ Nose
- ✧ Mouth



# Protective Eyewear Goggles or Face shield

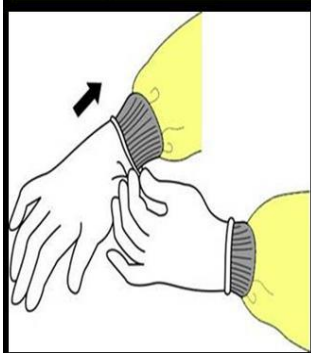


Used when splash  
with body fluids  
is anticipated

Single use must  
be discarded  
after patient  
contact

Reusable must  
be cleaned after  
each use

Must perform  
hand hygiene  
before and after  
the removal of  
protective  
eyewear

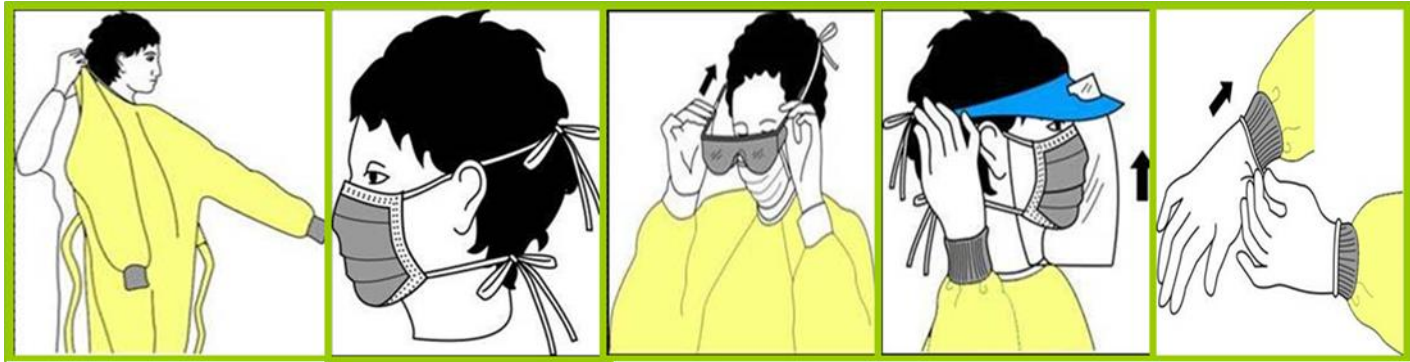


# PPE for Standard Precautions

The PPE used in standard precautions are used alone or in combination and include:

- ▶ aprons and gowns
- ▶ surgical masks
- ▶ protective eyewear (goggles or face shields), and
- ▶ gloves.

# Sequence for Putting on PPE



Perform hand  
hygiene

Put on gown

Put on mask

Apply  
protective  
eyewear such  
as goggles or  
face shield

Apply gloves

# Sequence for Removing PPE



Remove  
gloves

Perform  
hand  
hygiene

Remove  
protective  
eyewear  
such as  
goggles or  
face shield

Remove  
gown

Perform  
hand  
hygiene

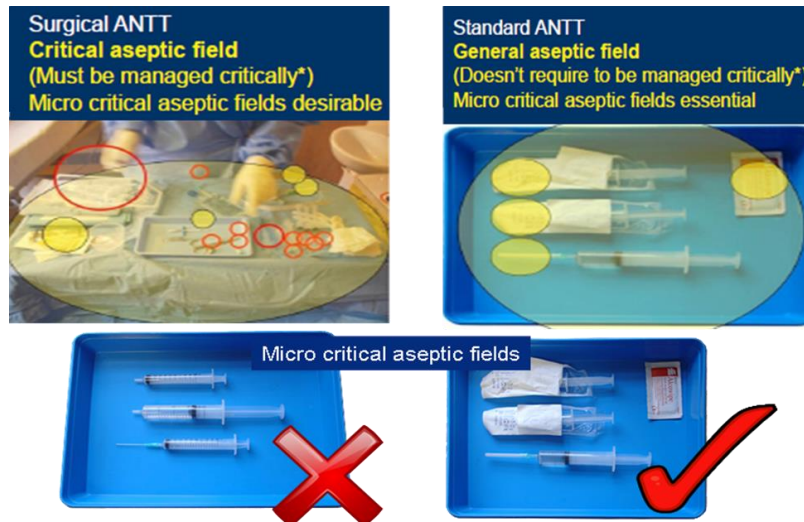
Remove  
mask

Perform  
hand  
hygiene

# Aseptic Technique

Aseptic technique is a practice to promote or ensure asepsis. The ANTT® framework is a set of principles that allows the clinician to determine the method required to maintain asepsis during the task/procedure to be performed using sterile and/or clean equipment.

There are two types of aseptic technique - surgical or standard.



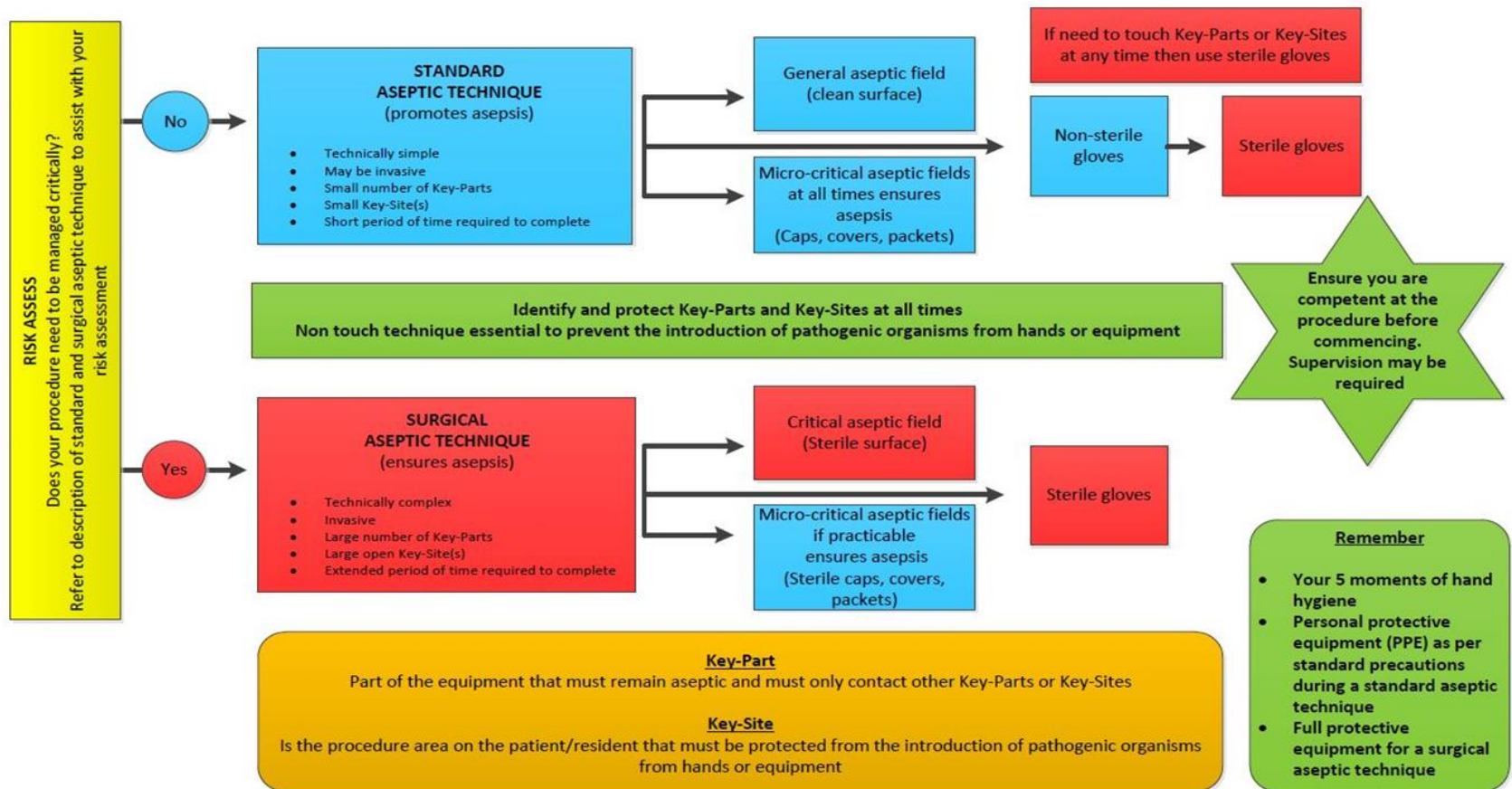
Ensuring and promoting asepsis



# Use the flowchart to choose the type of aseptic technique needed!




## Aseptic Technique

### Using the Aseptic Non Touch Technique (ANTT®) Framework



# Appropriate reprocessing of reusable instruments and equipment

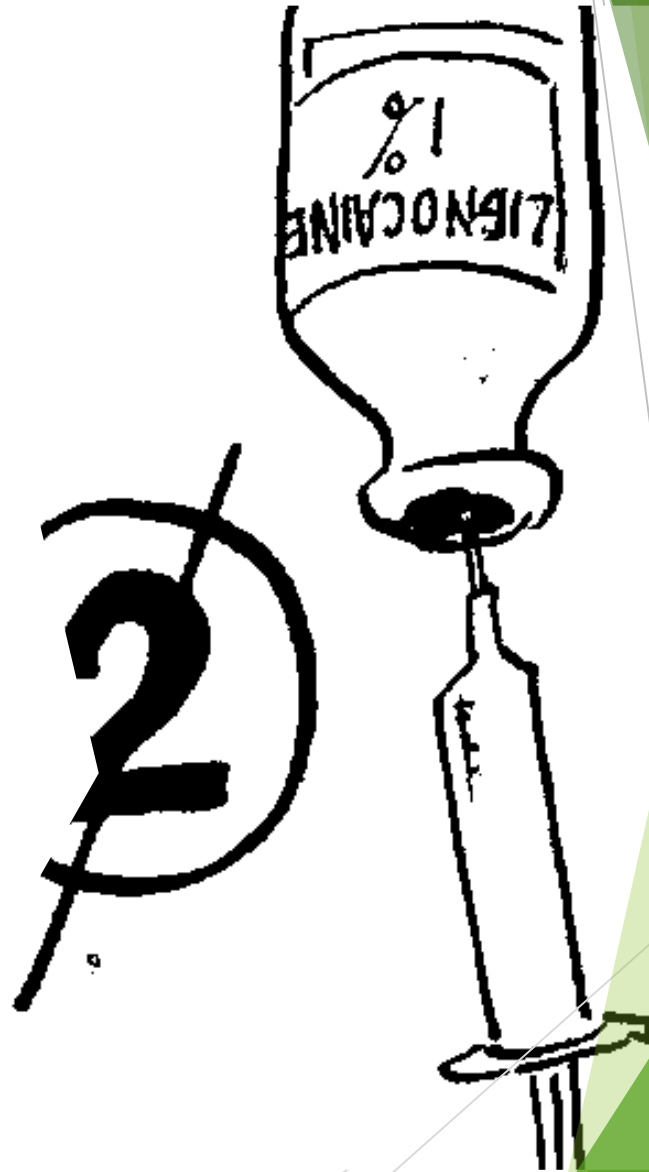
Reusable instruments and equipment are reprocessed or cleaned based on how that instrument or equipment is used, and the potential risk of infection posed to the patient/resident.

Patient Contact	Examples	Device Classification	Minimum Inactivation Level
Intact skin		Non-Critical	Cleaning and/or Low/Intermediate Level Disinfection
Mucous membranes or non-intact skin		Semi-Critical	High Level Disinfection
Sterile areas of the body, including blood contact		Critical	Sterilization

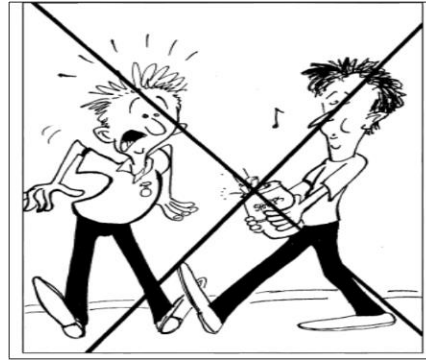
Critical and semi-critical items would be reprocessed in a sterilisation department. Non-critical items can usually be cleaned and/or disinfected in the patient care area.

# Single Use Policy

- ▶ Any items marked by manufacturer as single use should be discarded after use.
- ▶ Single use vials or ampoules must be used wherever these are available.
- ▶ Multi dose vials must only be used on the same patient then discarded.
- ▶ Items marked “*Single Patient Use*” must only be re-used on same patient then discarded.







# Safe Handling of Sharps

- ▶ Always use safety devices when they are available and ensure you activate the safety feature.
- ▶ Use appropriate sharps containers.
- ▶ Discard used sharps immediately.
- ▶ Do not pass sharps by hand.
- ▶ Avoid recapping needles.
- ▶ Do not force sharps into container.
- ▶ Do not over-fill sharps containers.
- ▶ Segregate correctly.

# Environmental Cleaning



Deposits of dust, soil and microbes on surfaces are a potential source of infection. Cleaning tips:

- ▶ Neutral detergent is used for routine cleaning.
- ▶ Disinfectants may be required in some situations - gastro, MROs.
- ▶ All cleaning equipment should be stored dry.
- ▶ Surfaces should be cleaned regularly and immediately following blood and body fluid spills.



# Blood and Body Substance Spills

The nurse is responsible for cleaning up blood or body substance spills immediately. Cleaners can clean the area once this is completed.

Spill cleaning tips:

- ▶ use personal protective equipment
- ▶ confine and contain the spill
- ▶ treat waste as infectious
- ▶ clean spill site according to hospital policy
- ▶ clean carpet with neutral detergent and arrange carpet steam cleaner as soon as possible, and
- ▶ use a chlorine based disinfectant for hard surfaces as directed by your hospital policy.



# Waste Management

- ▶ Waste should be segregated at point of generation.
- ▶ Know before you throw - put the right waste in the right bin.
- ▶ Place **clinical waste** in yellow containers or bags bearing biohazard symbol.
- ▶ Do not over fill bags or containers.
- ▶ Do not compact by hand.
- ▶ Follow relevant jurisdiction legislation, guidelines or codes of practice as outlined in local policy.



# Linen Management



- Do not over fill bags (3/4 full).
- No sharps into soiled linen.
- Do not carry soiled linen in your hands.
  - Prevent seepage.
- Do not leave/store linen bags on the floor.
  - Use gloves to handle moist linen.

# Food Hygiene

- ▶ Food safety training required if preparing food.
- ▶ Appropriate hand hygiene.
- ▶ Regular cleaning of serving and storage areas.
- ▶ Pest and dust control.
- ▶ Date and cover prepared food stored in the fridge.
- ▶ Maintain safe food temperatures and keep records as per local policy:
  - ▶ Hot food -  $>60^{\circ}\text{C}$
  - ▶ Cold food -  $<5^{\circ}\text{C}$



# Occupational Exposure



## Immediate management:

- ▶ First aid - washing of area.
- ▶ Eye splashes - rinse thoroughly.
- ▶ Report incident promptly.
- ▶ Evaluation of exposure to determine risk.

## Follow-up action:

- ▶ Counselling.
- ▶ Blood tests if required.
- ▶ Full documentation of incident.

# Your Health and Safety

- ▶ Always follow local policy and procedures.
- ▶ Maintain good personal hygiene.
- ▶ Seek prompt diagnosis and treatment of personal illness.
- ▶ Some illnesses require you to be away from work until symptoms cease. For example 48 hours after the last bout of diarrhoea for Gastroenteritis and 5-7 days for Influenza.
- ▶ Staff immunisation:
  - ▶ Hepatitis B
  - ▶ Influenza
  - ▶ MMR
  - ▶ Pertussis
  - ▶ Varicella zoster





# Take Care .....

.... of yourself and your patients



Infection Prevention and Control Phone Number:.....