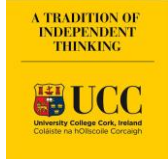




# Infection Prevention and Control A Foundation Course

2014



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## Standard Precaution – Element 5:

***PPE,  
Patient Placement,  
Patient Movement  
and Transfer***

*Jo O'Hora, IPCN – CUH  
• September 2014*



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## Overview

### PPE

- What is PPE?
- Types of PPE
- When do you use PPE?
- Sequence for putting on PPE
- Sequence for taking off PPE
- PPE for transmission based precautions

### Patient Placement

- Risk assessment
- Transmission based precautions

### Patient Movement and Transfer

- Patient movement within the Organisation
- Patient transfer to another Health Care setting
- Communication



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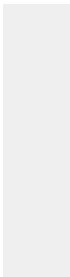
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## Personal Protective Equipment (PPE)



**Definition:**  
"specialized clothing or equipment worn by an employee for protection against infectious materials" (OSHA)



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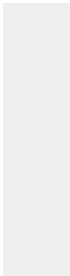
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## Factors Influencing PPE Selection



- Type of exposure anticipated
  - Splash/spray versus touch
  - Category of isolation precautions
- Durability and appropriateness for the task
- Fit



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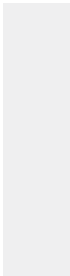
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## Types of PPE Used in Healthcare Settings



- **Gloves** – protect hands
- **Gowns/aprons** – protect skin and/or clothing
- **Masks and respirators** – protect mouth/nose
  - Respirators – protect respiratory tract from airborne infectious agents
- **Goggles** – protect eyes
- **Face shields** – protect face, mouth, nose, and eyes



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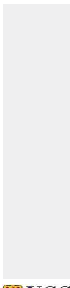
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## When to use PPE?



- PPE prevents contact with an infectious agent or body fluid that may contain an infectious agent, by creating a barrier between the potential infectious material and the healthcare work
- Intended to promote patient safety and increase the safety of the healthcare work environment




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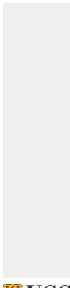
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## Risk assessment



Select the appropriate PPE based on a risk assessment including the following:

- The nature of the anticipated patient care interaction
- The nature of the procedure
- The risk of exposure to blood, body fluids, secretions, excretions and the infectious agents
- The risk of contamination of the skin or clothing




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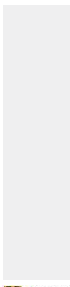
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## PPE for Standard Precautions



- **Gloves** – Use when touching, or there is a risk touching, of blood, body fluids, secretions, excretions, contaminated items; for touching mucus membranes and non-intact skin
- **Gowns/Aprons** – Use during procedures and patient care activities when contact of clothing/ exposed skin with blood/body fluids, secretions, or excretions is anticipated




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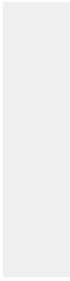
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### PPE for Standard Precautions

- **Mask and goggles or a face shield** - Use during patient care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions




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### PPE for Transmission based Precautions

- **Contact Precautions** – Gown and gloves for contact with patient or environment (e.g., medical equipment, environmental surfaces)
  - In some instances these are required for entering patient's environment
- **Droplet Precautions** – Surgical masks within 3 feet of patient. This can vary according to local policy
- **Airborne Infection Isolation** – Particulate respirator\* - FFP3 or similar

\*Negative pressure isolation room also required




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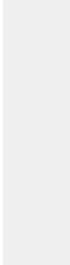
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### PPE Use in Healthcare Settings:




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### Key Points About PPE

- **Don** before contact with the patient, generally before entering the room
- **Use carefully** – don't spread contamination
- **Remove and discard** carefully, either at the doorway or immediately outside patient room; remove respirator outside room
- **Immediately** perform hand hygiene




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### Sequence\* for Donning PPE

- Gown / Apron first
- Mask or respirator
- Goggles or face shield
- Gloves

\*Combination of PPE will affect sequence – be practical




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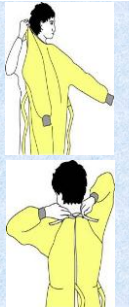
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### How to Don a Gown

- Select appropriate type and size
- Opening is in the back
- Secure at neck and waist
- If gown is too small, use two gowns
  - Gown #1 ties in front
  - Gown #2 ties in back




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## Face Protection

- **Masks** – protect nose and mouth
  - Should fully cover nose and mouth and prevent fluid penetration
- **Goggles** – protect eyes
  - Should fit snugly over and around eyes
  - Personal glasses not a substitute for goggles
  - Antifog feature improves clarity




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## Face Protection

- **Face Shields** – protect face, nose and mouth
  - Should cover forehead, extend below chin and wrap around side of the face




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## How to Don a Mask

- Place over nose, mouth and chin
- Fit flexible nose piece over nose bridge
- Secure on head with ties or elastic
- Adjust to fit




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## Respiratory Protection

- Purpose – protect from inhalation of infectious aerosols (e.g., *Mycobacterium tuberculosis*)
- PPE types for respiratory protection
  - Particulate respirators
  - Half- or full-face elastomeric respirators
  - Powered air purifying respirators (PAPR)
- Fit testing.....



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## How to Don a Particulate Respirator

- Select a fit tested respirator
- Place over nose, mouth and chin
- Fit flexible nose piece over nose bridge
- Secure on head with elastic
- Adjust to fit
- Perform a fit check –
  - Inhale – respirator should collapse
  - Exhale – check for leakage around face



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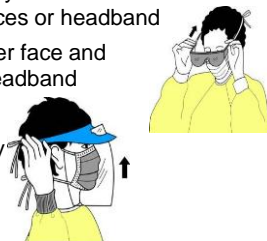
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## How to Don Eye and Face Protection

- Position goggles over eyes and secure to the head using the ear pieces or headband
- Position face shield over face and secure on brow with headband
- Adjust to fit comfortably



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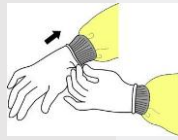
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## How to Don Gloves

- Don gloves last
- Select correct type and size
- Perform hand hygiene
- Insert hands into gloves
- Extend gloves over isolation gown cuffs



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## Do's and Don'ts of Glove Use

- Clean your hands before donning gloves
- Work from "clean to dirty"
- Limit opportunities for "touch contamination" - protect yourself, others, and the environment
  - Don't touch your face or adjust PPE with contaminated gloves
  - Don't touch environmental surfaces except as necessary during patient care
- Take them off after use and clean your hands



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## How to Safely Use Gloves

- Keep gloved hands away from face
- Avoid touching or adjusting other PPE
- Remove gloves if they become torn; perform hand hygiene before donning new gloves
- Limit surfaces and items touched



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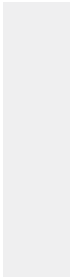
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### PPE Use in Healthcare Settings:



## How to Safely Remove PPE



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### "Contaminated" and "Clean" Areas of PPE



- **Contaminated** – outside front
  - Areas of PPE that have or are likely to have been in contact with body sites, materials, or environmental surfaces where the infectious organism may reside
- **Clean** – inside, outside back, ties on head and back
  - Areas of PPE that are not likely to have been in contact with the infectious organism



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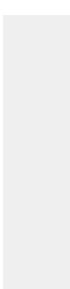
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### Sequence for Removing PPE



- Gloves – and perform hand hygiene
- Face shield or goggles
- Gown
- Mask or respirator



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### Where to Remove PPE

- At doorway, before leaving patient room or in anteroom\*
- Remove respirator outside room, after door has been closed

\* Ensure that hand hygiene facilities are available at the point needed, e.g., sink or alcohol-based hand rub



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### How to Remove Gloves - Step 1



- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand



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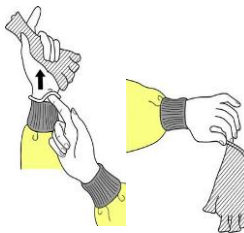
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### How to Remove Gloves - Step 2



- Slide ungloved finger under the wrist of the remaining glove
- Peel off from inside, creating a bag for both gloves
- Discard



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## Remove Goggles or Face Shield



- Grasp ear or head pieces with ungloved hands
- Lift away from face
- Place in designated receptacle for reprocessing or disposal



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## Removing Isolation Gown



- Unfasten ties
- Peel gown away from neck and shoulder
- Turn contaminated outside toward the inside
- Fold or roll into a bundle
- Discard



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## Removing a Mask



- Untie the bottom, then top, tie
- Remove from face
- Discard



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## Removing a Particulate Respirator

- Lift the bottom elastic over your head first
- Then lift off the top elastic
- Discard




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## Patient Placement

- Risk Assessment
- Transmission based precautions




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## Patient Placement

- **Risk assessment** for the safe placement of patients to prevent the spread of infection & provide optimal care
- HCW's should include the potential for transmission of infectious agents in patient placement decisions
- Where possible, place patients who contaminate the environment or cannot maintain appropriate hygiene in isolation rooms with en suite toilet facilities and ante room




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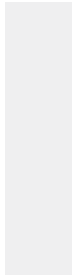
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## PATIENT PLACEMENT

- Risk assessment for all patients
- Consideration: availability of isolation facilities and standard of same – e.g. ensuite, positive/negative pressure rooms
- Priority: the pathogenicity of the infectious agent
- Susceptibility of other patients
- Needs and abilities of individual patients, & care setting involved




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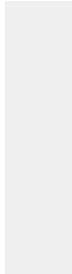
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## Patient Placement

If a patient requires isolation and there are no ensuite single rooms available:

- Local risk assessment supported by Infection Prevention and Control Team (IPCT). These may include:
  - Transfer to another ward with suitable facilities
  - Cohorting – the decision to cohort should be carried out in conjunction with the IPCT –




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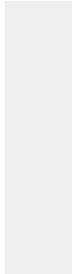
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## PATIENT PLACEMENT

- Priority: the pathogenicity of the infectious agent
- Route of transmission:
  - Airborne/Droplet infections more likely to spread
  - If Droplet precautions apply, patient to wear facemask leaving the room
  - If Airborne precautions apply, patient to wear appropriate facemask leaving the room – negative air pressure room, if available




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## Risk Stratification Tool

- The following tool for risk stratification of patients with MRSA for isolation and cohorting is based on the Lewisham Isolation Prioritisation System (LIPS)
- The LIPS was developed in 1999 as a scoring system based on factors likely to influence transmission. It was modified in 2009, following extensive feedback from users




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## Risk Stratification Tool for isolating and cohorting patients

**Table 2. Score card**

Table with 4 columns: Patient name, Date, Name and designation of person scoring, and Significant details (e.g. microbiological).

Category	Classification	Score	Comments
ACCP	2	5	
	3	10	
	4	40	
	5	100	
Route	Airborne	15	
	Droplet	10	
	Contact/face-to-face	5	
Evidence of transmission	Strong (unaided)	10	
	Modest (specimens)	5	
	None	0	
Significant resistance	Yes	5	Such as MRSA, VRE, ESRB, Gent resistance.
	No	0	
High susceptibility of other patients with infection	Yes	10	Specific for various infections and patient populations.
	No	0	
Prevalence in hospital	Significant	0	
	Endemic	-5	This reflects the burden of infection in the hospital and control measures may be more applicable.
Disposal	Epidemic	-5	
	High risk	10	This includes outbreaks, portable equipment, ongoing contact, nursing, infected patients, etc.
TOTAL SCORE	Medium risk	5	
	Low risk	0	

Using the score to determine the priority for isolation:  
 Score      Priority for isolation  
 0-20      Low  
 21-35      Medium  
 36-50      High

ACCP = Antiseptic Consumption; MRSA = Meticillin Resistant Staphylococcus aureus; VRE = Vancomycin Resistant Enterococci.




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## PATIENT PLACEMENT

- If isolation is required:
- Inform patient
  - Place patient in single room with ensuite facilities as soon as possible
  - Keep door closed – transmission based precautions sign on the door – **Contact/Airborne/Droplet**
  - Single use equipment, or decontaminate multiple patient use equipment as per manufacturer's instructions
  - Respect and ensure confidentiality




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## PATIENT PLACEMENT

- **Communication:**
  - Inform all clinical staff
  - Inform all support staff
  - Visitors advised to contact person in charge – NB - ensure confidentiality
  - Ensure availability of PPE and Hand hygiene equipment
  - Place waste bins for **Contact Precautions** inside door and for **Airborne Precautions** outside door
  - All notes outside of room – minimum of equipment/keep tidy




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## PATIENT PLACEMENT

### Setting up for Isolation

- Place appropriate sign on the single room door
- Ensure availability of PPE and hand hygiene facilities
- Keep all notes outside of room
- For **Contact** precautions: place yellow healthcare risk waste bin inside room for disposal of PPE before exiting room
- For **Airborne** precautions: place yellow healthcare risk waste bin outside room, or in anti-room
- Document in nursing notes




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## Patient Movement & Transfer

- Patient Movement**
  - Within Hospital
- Patient Transfer**
  - To another department
- Patient Transfer**
  - To another care facility
- Communication**




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## Patient Movement & Transfer

### Patient Movement - Within Hospital

- Patients on Transmission based precautions must remain within the isolation room, with the door closed, until they are diagnosed as non-infective
- If in doubt, patients are to remain in the isolation room until Infection Prevention & Control are consulted




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## Patient Movement & Transfer

- HCWs to wear appropriate PPE on entering isolation room – change as appropriate according to the 5 Moments for Hand Hygiene (gloves) or if there are any tears
- Visitors do not need to wear gowns/aprons/gloves **unless** they are involved in prolonged patient contact **or** that there is specific directive from Infection Prevention & Control to do so (some MDROs)




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## Patient Movement & Transfer

### Transfer to another department

- Limit movement of patients outside of isolation room to **medically necessary purposes**
- Ward staff to **inform receiving department**
- During transfer of patient on Airborne/Droplet precautions patient to wear appropriate facemask
- Where possible, ensure that infected areas of patients body are covered for **Contact** Precautions




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## Patient Movement & Transfer

- Gowns and gloves do not need to be worn by HCW during transfer of patient
- Hand Hygiene on arrival at department/ward, and PPE to be applied if patient contact is involved
- Patient to wear mask if on **Airbourne/Droplet** precautions




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## Patient Transfer - to another care facility

- The nurse in charge of the discharge process is responsible for informing **ambulance staff** of the precautions necessary when transporting a patient with a transmissible micro-organism e.g. MRSA, Pulmonary TB, Chicken pox, Shingles
- The discharging nurse is responsible for informing the **receiving care facility** of the Infection Prevention Control status of the transferring patient
- *Communication communication communication!!*




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## PPE Use in Healthcare Settings: Final Thoughts

PPE is available to protect you from exposure to infectious agents in the healthcare workplace

HCWs are responsible for the safe use of PPE

Know what type of PPE is necessary for the duties you perform and use it correctly




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