



# NETEC



EMORY  
MEDICINE



UNMC  
Nebraska  
Medicine

NYC  
HEALTH+  
HOSPITALS

| Bellevue

# Personal Protective Equipment and the Role of a Trained Observer

**1**

Recognize components that create and maintain a safer healthcare work environment

**2**

Differentiate safe and risky behavior when donning, doffing and wearing PPE

**3**

Identify potentially risky behavior , interventions and communication strategies when acting as a trained observer

## Need to consider

### All potential points of entry

- ED
- Primary Care
- Out Patient

### All potential conditions on arrival

- Walking well
- Deteriorating
- Pregnant
- Pediatric
- Delirious

Hard not to get caught in and endless cycle of potentialities

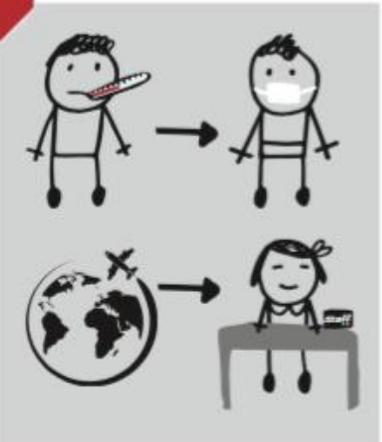
There WILL be surprises, either in presentation or pathogen

**Do you have a fever? If you do, please put on a face mask.**

**¿Tiene fiebre? Si tiene fiebre, por favor use una mascara facial.**

**¿Ha viajado fuera del país en los últimos 21 días? Si lo ha hecho, por favor Infórmese a nuestro personal.**

**Have you traveled internationally in the past 21 days? If you have, please inform our staff.**



**STOP**

**EMORY HEALTHCARE**

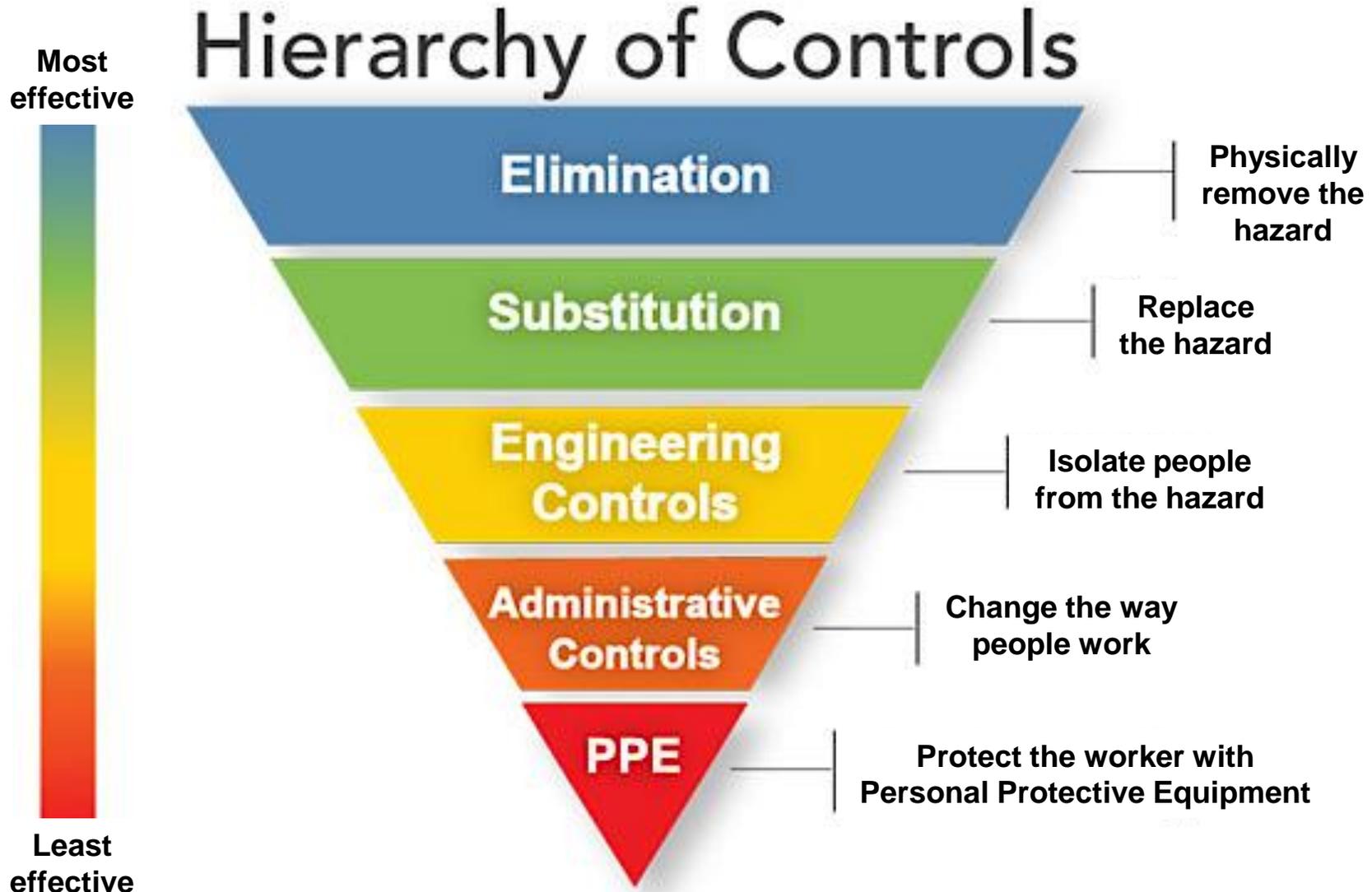
[emoryhealthcare.org](http://emoryhealthcare.org)

# Measles Alert

Do you have a FEVER and RASH, with COUGH or RUNNY NOSE or RED EYES?

If YES,

# STOP





**Contact**

Prevents transmission of disease caused by direct or indirect contact



**Droplet**

Prevents the transmission of disease through contact with respiratory or mucous membrane secretions



**Airborne**

Prevents transmission of infectious agents that are suspended in the air





Consider all screeners  
and first points-of-  
contact as opportunities  
for masks





**Contact**

**Most VHF's  
Smallpox  
Monkeypox**



**Droplet**

**Ebola and Marburg  
Nipah and Hendra  
Monkeypox  
Influenza  
Plague**



**Airborne**

**Smallpox  
SARS and MERS  
XDR-TB**



**Contact**

**Gown**  
**Gloves**  
**Eye Protection**



**Droplet**

**Head Cover**  
**N95 Respirator**  
**Shoe/Boot Covers**



**Airborne**

**PAPR**  
**or**  
**N95 Respirator**

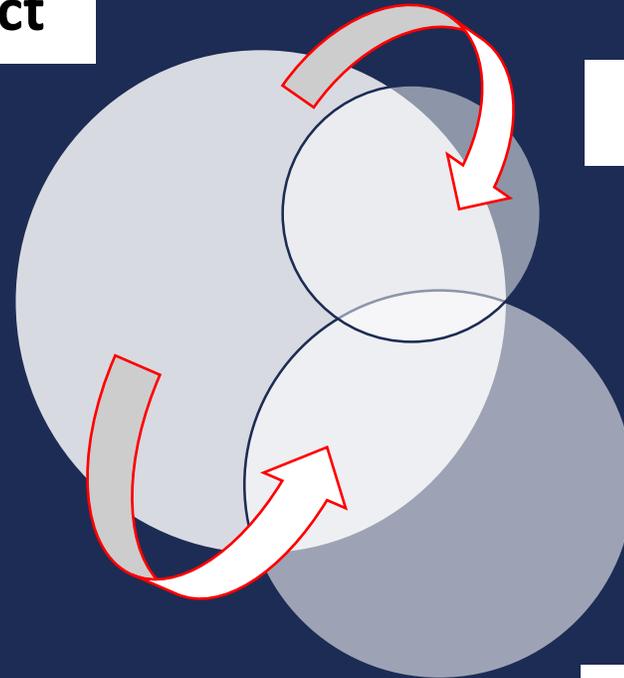
**Minimum level of PPE for High Consequence Pathogens**

- Patient condition changes - Dry to Wet
- Aerosol generating procedures
- Close Contact - <3'
- Prolonged Contact

**Contact**

**Airborne**

**Droplet**



- Gastroenteritis
- Infected Decubitus
- Lice
- RSV
- Scabies
- MRSA
- Rotavirus
- Shigella (incontinent)
- E. Coli (incontinent)
- Hep A (incontinent)
- VRE
- Group A strep
- Herpes simplex (neonate or disseminated)
- Herpes zoster (localized or disseminated)
- VHF
- SARS
- MERS
- Smallpox/Monkeypox

**Rubella**

Mumps

Pertussis (whooping  
cough)

Neisseria meningitidis

**Scarlet Fever**

SARS

MERS

Influenza

Other Group A Strep

Parvovirus B19

Chicken pox

Herpes zoster, disseminated

Measles

Smallpox/Monkeypox

Tuberculosis

Viral Hemorrhagic Fevers

Ebola

Lassa

Marburg

SARS

MERS

Except TB, all  
are also  
**Contact  
Isolation**

**Transmission Based Precautions and Isolation Guidelines are all about preventing entry into our mucous membranes – eyes, nose and mouth**

**The gloves, the gowns, and the process for removal of our PPE is to avoid creating short-term fomites – contamination on our hands, skin, clothing or environment that we then carry into our mucous membranes ourselves.**

7.6 million

healthcare workers in the US workforce

About half of those are RN's or LPN's

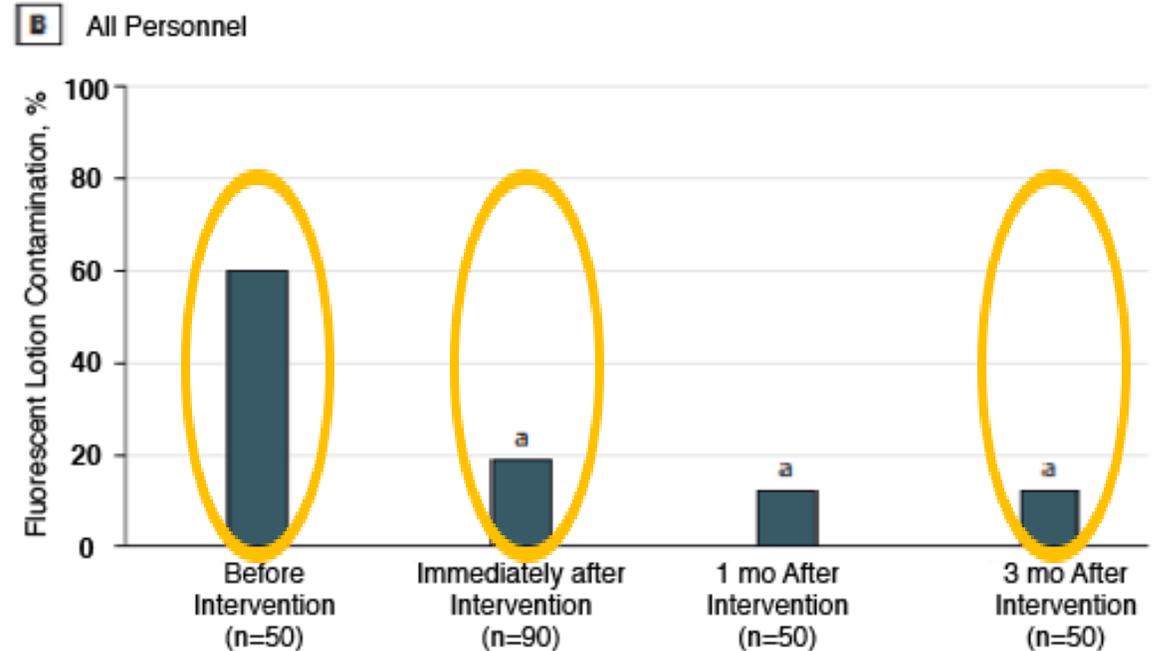
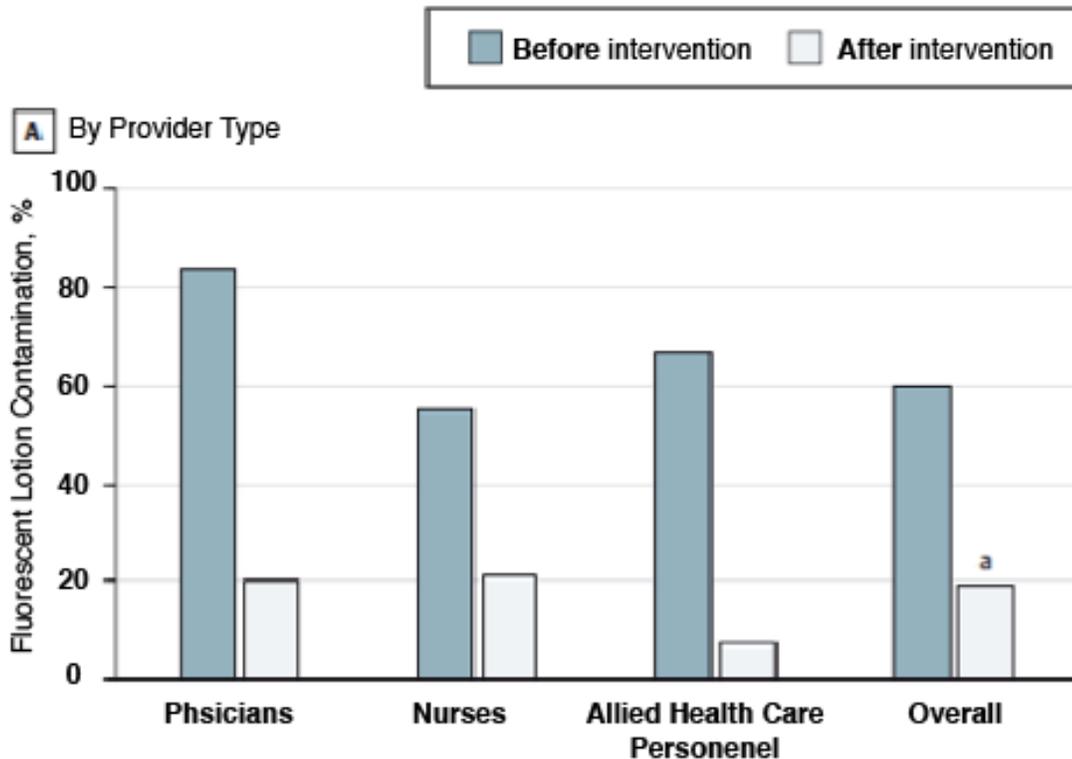
Somewhere between 9 - 42 HCW's per million,

so

**68 - 319**

die annually from occupational infections

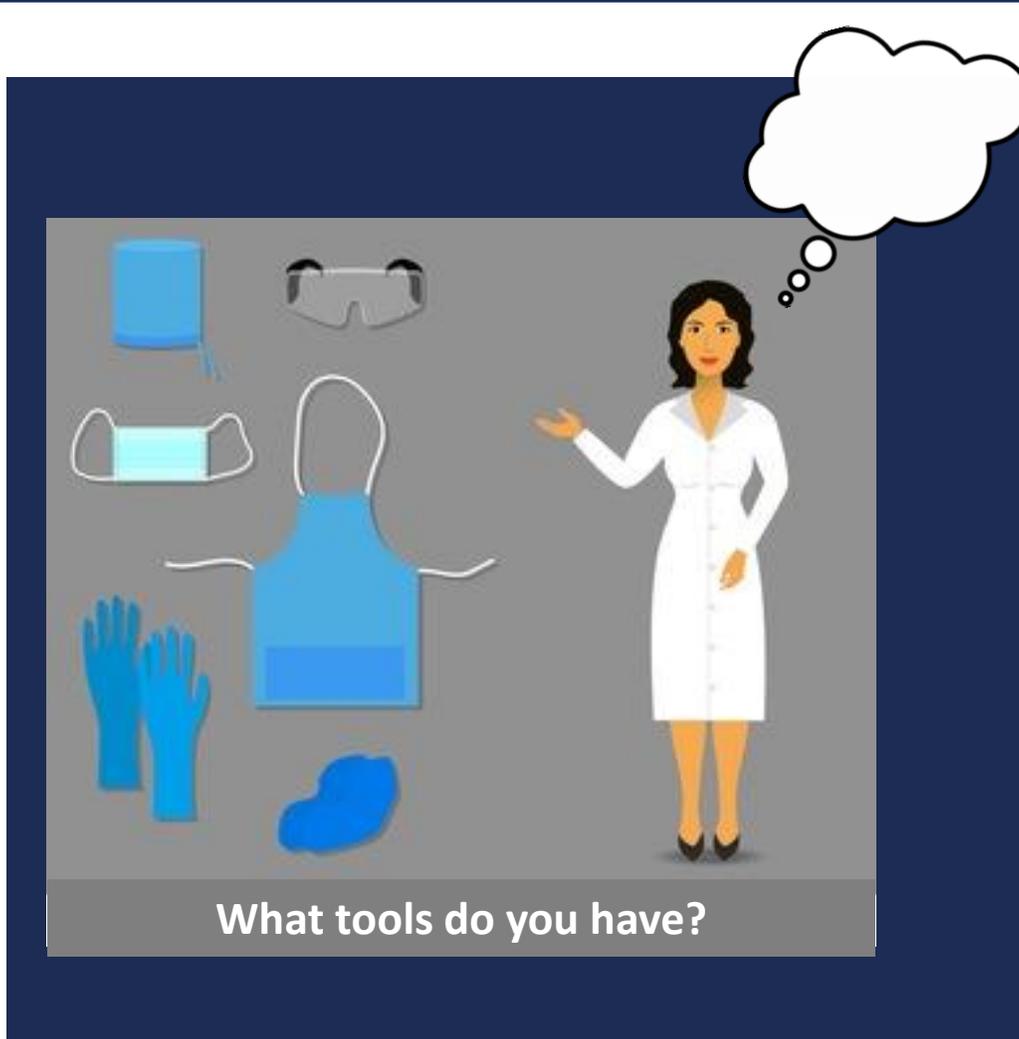
**Figure 3. Contamination of Personnel During Removal of Fluorescent Lotion-Contaminated Gloves Before and After an Intervention**



Frequency of fluorescent lotion contamination before and immediately after an educational intervention and overall frequency of contamination for all personnel types before, immediately after, and 1 and 3 months after the intervention.

<sup>a</sup>  $P < .001$  compared with before the intervention

# What tools do you have?



What kind of isolation might this patient need?

Contact  
Droplet  
Airborne  
Enhanced Contact

What might I be doing in the patient care area?

Handling an IV?  
Wound Care?  
Wet linens?  
Drawing Blood?

What might the patient do while I am there?

Cough  
Sneeze  
Vomit  
Toileting  
Want to get up  
Grab, tug, pull

## Start with clean hands!

- ✓ Think about what tasks you may do at the bedside. Researchers at the National PPE training Lab are working on the glove-gown interface and whether it is possible for body fluids to track inside our gloves
- ✓ If you may encounter lots of fluids, like when irrigating a wound or assisting a patient in a bath or shower, you can put on a pair of gloves THEN your gown and another pair of gloves on top once you've finished donning



- In the operating room, double gloving is recommended to reduce the risk of puncture and contamination of hands
- We can use that same strategy when patient care may involve anything very wet or heavily soiled
- Finish donning by applying your eye protection, if needed, and your mask or respirator
- Now is the time to add that second (or outer) pair of gloves!



Lots of people wear gloves, for all sorts of jobs. We would not want a food service worker to touch their face or hair, or the cash in the register with the same gloves they are going to use on our food.

We in healthcare should not touch our skin, hair, or eyeglasses with gloved hands and we also should not reach into our pockets for a pen or phone

Remember that **you are wearing gloves to keep germs off your skin and clothing**  
- so don't touch them with gloves!

**Beware of fluids tracking down the inside of your glove through the gathers in the sleeve of your gown.**



**Never lose sight of the cuff of your glove!**

# Barriers



## Notes on removal of PPE:

- Face shields offer better protection than goggles by covering the rest of the face and by allowing the use of eyeglasses
- By removing the bottom strap first, the mask is less likely to flip forward onto the wearers chest or clothing

## Questions

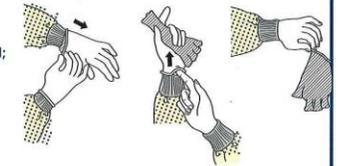
If the front of the goggles and mask are contaminated, is the wearer's forehead?

### SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

#### 1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glovet
- Discard gloves in waste container



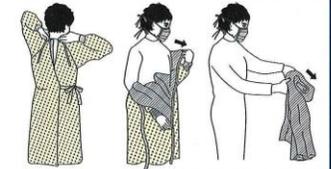
#### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container



#### 3. GOWN

- Gown front and sleeves are contaminated!
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



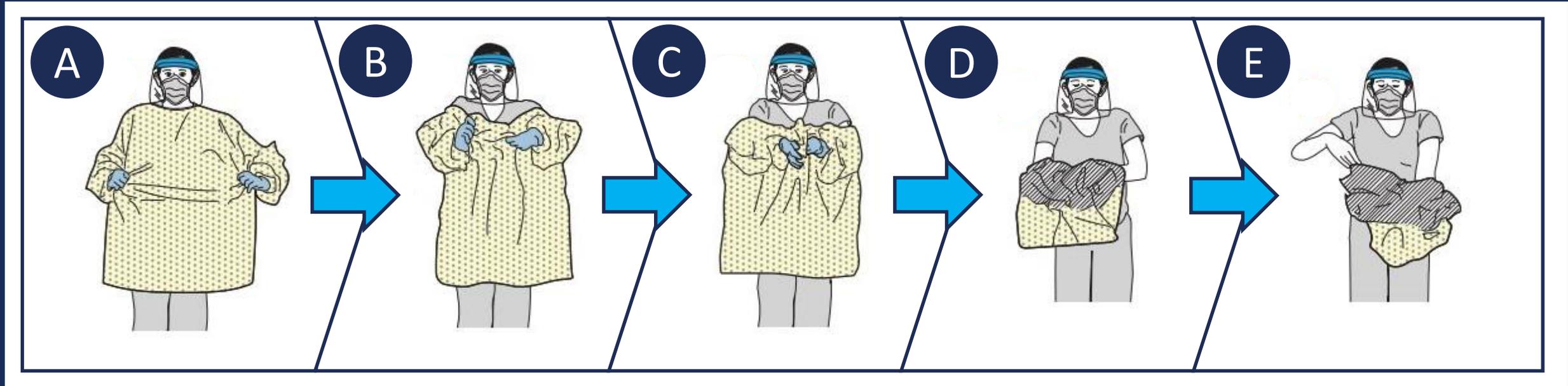
#### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated – DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE





This is a good demonstration of removing your gown and outer gloves together.

The face and eye protection is staying on in cases where removing the gown may cause a splash or an aerosolization of contaminated materials.

- ✓ Make your hands, or gloved hands as clean as possible before you begin. You may need to remove dirty gloves and put on a clean pair
- ✓ **Dirtiest First!**
- ✓ If you suspect that your gown is dirty, go ahead and remove that next. Then perform hand(or glove) hygiene
- ✓ Mask and eye protection should only be touched with clean hands or gloves, try not to touch your face or hair
- ✓ Remember! If you are in a room that required Airborne Precautions do NOT remove your respirator until you are out of the room
- ✓ **ALWAYS** finish doffing by performing **hand hygiene!**

Increased complexity of ensemble meets increased difficulty in removal

In recent research, even experienced staff members working with a trained observer inadvertently contaminated their scrubs, inner gloves, and hands.

- ✓ PPE should be kept as clean as possible
- ✓ Protocols should be tested for efficacy
- ✓ Training should be competency based

## Automaticity

Automation of a skilled behavior through repetition

Example:

Reading – becoming proficient at fluently recognizing words so that you can understand **content** without expending mental energy on letters, syllables and sounds



Combating  
involuntary automaticity



Monitor coworkers performing patient care activities for opportunities to interrupt the spread of contamination

- ✓ Spiking and priming IV bags
- ✓ Performing a physical assessment
- ✓ Disconnecting a completed medication
- ✓ Setting up equipment
- ✓ Programming a pump
- ✓ Performing QC

- ✓ New facility
- ✓ Precepting new employees
- ✓ New grads
- ✓ New equipment
- ✓ 'Updates'
- ✓ Change of brand

Bedside clinicians try to remember to interrupt normal workflow to insert hand hygiene, environmental cleaning and sanitizing equipment

Trained Observers watch bedside care, reminding those at the bedside if opportunities are missed as well as observing the patient for when they encroach on 'clean' areas

## Duties may include

- ✓ Observe donning and doffing for breaches to protocols
- ✓ Observe clinicians for points of potential contamination of PPE
- ✓ Monitor the patient care environment for potential fomites, areas of potential contamination
- ✓ Visually inspect PPE of persons donning for defects
- ✓ Visually inspect PPE of persons doffing for visible contamination
- ✓ Communicate with bedside clinicians concerning new orders, changes to orders schedule or agenda of the day, need for labs
- ✓ Receives clean specimens from bedside and hands them off to lab

## A trained observer should:

- Read aloud to the healthcare worker each step in the procedure checklist and visually confirm and document that the step has been completed correctly.
- Ensure that donning and doffing processes are adhered to.
- Be knowledgeable about all PPE recommended in the facility's protocol and the correct donning and doffing procedures, including how to dispose of used PPE.
- Be qualified to provide guidance and recommendations to the healthcare worker.
- Coach, monitor, and document successful donning and doffing procedures, and provide immediate corrective instruction if the healthcare worker is not following the recommended steps.
- The trained observer should NOT provide physical assistance during doffing, which would require direct contact with potentially contaminated PPE.
- The trained observer is required to wear PPE, nonetheless, because the coaching role will necessitate being present in the PPE removal area during the doffing process. .
- The trained observer should know the exposure management plan in the event of an unintentional break in procedure.

- ✓ Where are our opportunities for hand (glove) hygiene?
- ✓ Where are the opportunities for environmental decontamination?
- ✓ Reusable equipment?
- ✓ Bed side rails that are leaned on?
- ✓ Bed controls for height and HOB?
- ✓ Helping a patient sit, move or turn?
- ✓ Contact with assumed fomites – gown, sheets, blankets

Does your institution inadvertently reward dangerous behavior?

? Call light timers ?

? Alarm fatigue strategies ?

? Awards for “selflessness” ?

Does leadership set a good and consistent example?

Consider evaluating current donning and doffing competency

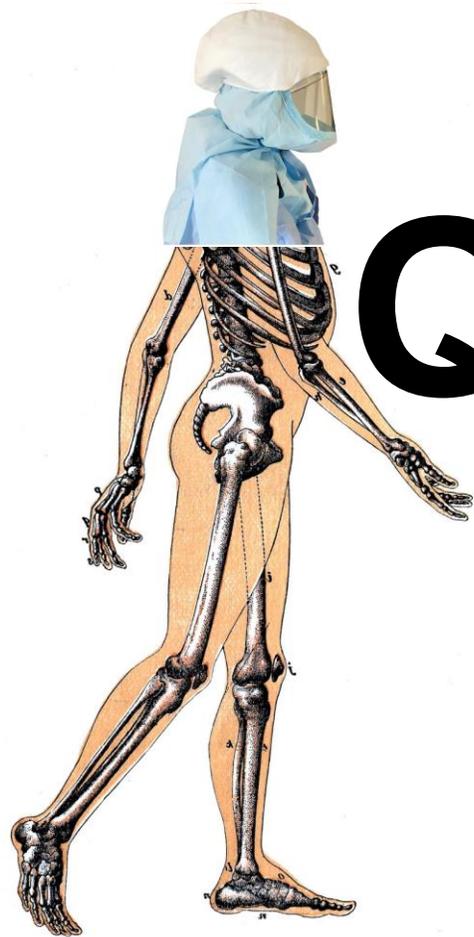
- Include glove removal, hand hygiene (ABHR and handwashing)

- ✓ Situational awareness – what have I touched, what in this room/environment may be contaminated, is this procedure/treatment/intervention likely to involve body fluids?
- ✓ Planning ahead – put supplies and equipment where and when they are needed without dirtying environment, wearing two pair of gloves, placing gloves or hand sanitizer where it can be reached safely, leave a pen in the patient care area
- ✓ Utilizing alternative barriers when fluids are, or may be, encountered
- ✓ Securing eyeglasses so they don't slide, so you don't touch them
- ✓ Making sure to wash or hand sanitize before touching eyes, nose or mouth

- ✓ Before eating
- ✓ Before putting gloves on
- ✓ Before and after having direct contact with a patient's intact skin (taking a pulse or blood pressure, performing physical examinations, lifting the patient in bed)
- ✓ After contact with blood, body fluids or excretions, mucous membranes, non-intact skin, or wound dressings
- ✓ After contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient
- ✓ If hands will be moving from a contaminated-body site to a clean-body site during patient care
- ✓ After glove removal
- ✓ After using a restroom

- ✓ Place hand sanitizer where it is visible when opening door
- ✓ Place trash bins where they are needed for appropriate doffing
- ✓ Have gloves and hand sanitizer within easy reach of staff performing patient care
- ✓ Use chux or other physical barriers if care requires leaning against/over bed
- ✓ Curtains should not come in contact with staff clothing
- ✓ Toilet covers!
- ✓ Rotate pumps and monitors so the displays can be seen from door or window
- ✓ Pens, pens, pens!
- ✓ If your staff carry phones, can they be easily disinfected?

Do they get left OUT of room, or IN pocket?



# Questions?

