

EXPERIMENT: 07



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Shaping Lives...
Empowering Communities...

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AIM OF THE EXPERIMENT: Various types of masks, PPE gear, wearing/using them, and disposal.

REQUIREMENT: Data Collection

THEORY:

PERSONAL PROTECTIVE EQUIPMENT(PPE)

INTRODUCTION

Protecting themselves and others is the priority for health care providers around the world. This includes with infecting prevention, control measure and the appropriate implementation of personal protective equipment, hand hygiene and waste management of potentially harmful material.

PPE CONTAINS:

- Globes when handling chemical and body fluids.
- Glass for eye protection.
- Face shield for face protection.
- Hair cap for head protection.
- Softy shoes or boots or covers in infectious area
- Apron or gowns when handling hazardous chemical or infectious substance.
- A respirator to prevent airborne diseases such as TB etc..
- Hearing protection for loud noises form equipment.

SEQUENCE/GUIDELINES FOR WEARING PPE KIT:

The order to put on or removal of personal protective equipment(PPE Kit),the following is the current sequence for put on PPE Kit.

- Hair cap
- Eye Glass
- Ear cap
- Respirator
- Face shield
- Globes
- Apron

- Softy shoes or boots

Keep in mind that the combination of PPE used, and the sequence for wearing will be determined by the precaution that need to be taken for each patient.

SEQUENCE/GUIDELINES FOR DOFFING/REMOVAL PPE:

It is extremely important to take great care when removing and disposing of used PPE Kit to avoid exposure to infection or to prevent infection.

- Gloves
- Face shield
- Goggles
- Ear cap
- Gown
- Mask or respiratory
- Softy shoes or boots

The sequence for removing PPE is indented to limit opportunity for self contamination.

DISPOSAL OF PPE KIT:

1. PPE must be put in a plastic waste bag and tied when full.
2. This plastic bag should then be placed in a second bin bag and tied.
3. It should then be stored in a safe and secure place for 72 hours or until the individual's test results are known.
4. If the individual tests negative, PPE waste can be put in with the general waste. It is not necessary to double bag your PPE waste.
5. If it has not been exposed to the virus. All of the general waste, we collect is sent to for safe destruction.
6. If the individual tests positive, then store it for at least 72 hours and put it in with the general waste and sent to for safe destruction.

Steps to take off personal protective equipment (PPE) including gown

1 Always remove PPE under the **guidance and supervision of a trained observer** (colleague). Ensure that infectious waste containers are available in the doffing area for safe disposal of PPE. Separate containers should be available for reusable items.

2 Perform **hand hygiene** on gloved hands.¹

3 Remove **apron** leaning forward and taking care to avoid contaminating your hands. When removing disposable apron, tear it off at the neck and roll it down without touching the front area. Then untie the back and roll the apron forward.



4 Perform **hand hygiene** on gloved hands.

5 Remove **outer pair of gloves** and dispose of them safely.

Use the technique shown in Step 17

6 Perform **hand hygiene** on gloved hands.

7 Remove **head and neck covering** taking care to avoid contaminating your face by starting from the bottom of the hood in the back and rolling from back to front and from inside to outside, and dispose of it safely.



OR



8 Perform **hand hygiene** on gloved hands.

9 Remove the **gown** by untying the knot first, then pulling from back to front rolling it from inside to outside and dispose of it safely.



10 Perform **hand hygiene** on gloved hands.

11 Remove **eye protection** by pulling the string from behind the head and dispose of it safely.



OR



12 Perform **hand hygiene** on gloved hands.

15 Remove rubber **boots** without touching them (or overshoes if wearing shoes). If the same boots are to be used outside of the high-risk zone, keep them on but clean and decontaminate appropriately before leaving the doffing area.²

16 Perform **hand hygiene** on gloved hands.

13 Remove the **mask** from behind the head by first untying the bottom string above the head and leaving it hanging in front; and then the top string next from behind head and dispose of it safely.



14 Perform **hand hygiene** on gloved hands.

17 Remove **gloves** carefully with appropriate technique and dispose of them safely.



18 Perform **hand hygiene**.

¹ While working in the patient care area, outer gloves should be changed between patients and prior to exiting (change after seeing the last patient)

² Appropriate decontamination of boots includes stepping into a footbath with 0.5% chlorine solution (and removing dirt with toilet brush if heavily soiled with mud and/or organic materials) and then wiping all sides with 0.5% chlorine solution. At least once a day boots should be disinfected by soaking in a 0.5% chlorine solution for 30 min, then rinsed and dried.

MASK:

A barrier or mask or respirator, is a product worn on the face specifically covering at least the person's nose and mouth, with the primary purpose of removing contaminants from the air, filter out airborne particles and to filter out chemicals and gases. Other respirators or mask protect by supplying clean respirable air from another source.

GUIDELINE FOR CHOOSING APPROPRIATE MASK:

- Clean the hands before put on mask, as well as before and after you take it off, and after you touch it at any time.
- It is important to check that it fits over the nose, mouth, and chin.
- Check for gaps by cupping the hands around the outside edges of the mask.
- Make sure no air is flowing from the area near eyes or from the sides of the mask.
- If the mask has a good fit, you will feel warm air come through the front of the mask and may be able to see the mask material move in and out with each breath.

TYPE OF MASK:

Cloth Masks can be made from a variety of fabrics and many types of cloth masks are available.

Wear cloth masks with

- A proper fit over the nose, mouth, and chin to prevent leaks.
- Multiple layers of tightly woven, breathable fabric and very comfortable for children and older people.
- Fabric that blocks light when held up to bright light source.



Do NOT wear cloth masks with

- Gaps around the sides of the face or nose.
- Exhalation valves, vents, or other openings.
- Single-layer fabric or those made of thin fabric that don't block light.
- Wet or dirty material.



PROCEDURE MASK/DISPOSAL MASK: Disposable/**procedure** masks are widely available. They are sometimes referred to as surgical masks or medical procedure masks.

Wear procedure masks with

- A proper fit over your nose, mouth, and chin to prevent leaks.
- Multiple layers of non-woven material.
- A nose wire.



Do NOT wear procedure masks with

- Gaps around the sides of the face or nose.
- Wet or dirty material.



Ways to have better fit and extra protection with cloth and disposable masks

- Wear two masks (disposable mask underneath **AND** cloth mask on top)



APPROPRIATE MASK OR RESPIRATOR: KN95, KN95s, KF94

- **ASTMF3502**(If any person or child having medical condition, such as a heart or lung problem, ask their healthcare provider before they use any mask or use an ASTM F3502 mask or a respirator.)



Wear respirators with:

- They filter varying levels of particles in the air depending on the standard they are designed to meet.
- They seal tightly to the face when fitted properly.

Do NOT wear respirators with:

- If they have exhalation valves, vents, or other openings.
- If it is hard to breathe while wearing them.
- If they are wet or dirty.
- With other masks or respirators.

ALTERNATIVE MASKS FOR SPECIAL SITUATIONS:



Clear masks or cloth masks with a clear plastic panel are an alternative type of mask that may be helpful when interacting with certain groups of people, such as:

- People who are deaf or hard of hearing
- Young children or students learning to read
- Students learning a new language
- People with disabilities
- People who need to see the proper shape of the mouth for making appropriate vowel sounds

The FDA cleared for marketing a transparent medical mask. These transparent medical masks should be reserved for use by healthcare workers and patients who require them.

If you use this type of mask, make sure

- You can breathe easily
- Excess moisture does not collect on the inside of the mask

DISPOSAL OF DIFFERENT MASK:

- **Cloth mask (Wash)** – Should be washed properly and frequently and left to hang and air dry.
- **Surgical mask/Procedure mask**– It should be removed chin upwards and please take care to remove it from the strings and be careful not to touch the front portion while taking off the mask. After taking the mask off, please fold

it half inwards, such that droplets from mouth and nose are not exposed. Then, fold the mask into another half, until it looks like a roll. Then wrap the mask in a tissue paper or polythene bag and immediately discard it in the yellow waste bag. Keep the things handy before disposing it off Or burn it or dispose it in soil.

- **N95 respirator and other respirator** – When removing the mask, hold the edge of the straps attached to take of the N95 mask. Don't touch the inside part of the respirator. Wash hands before and after it. Gently remove the mask so as not to disseminate contaminants on the mask. Place the mask in a plastic bag or zip-lock bag. You can also store them in a breathable container such as a paper bag between uses. Secure the bag tightly. Place the plastic bag into garbage can or biomedical waste disposal unit. Never put on a new mask until you have properly washed your hands.

Conclusion :-From the above experiment we know about personal protective equipment(PPE Kit) and different types of masks.