

Personal Protective Equipment at the MUHC

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Mission Statement

- To keep you safe when evaluating COVID-19 patients.

Terms to know

- **Personal Protective Equipment (PPE):** Protective clothing, mask and shield to protect you from infection.
- **Don:** To put on the protective equipment.
- **Doff:** To remove the protective equipment.
- **AGMP:** Aerosol-generating medical procedure which includes any manipulation of the upper aerodigestive tract.

Goals

- Understand the principles of Personal Protective Equipment (PPE) when evaluating a patient with suspected or confirmed COVID-19.
- Learn the steps to don and doff PPE.
- We will allow time to ask questions in between each step of the donning and doffing process.

Introduction to Personal Protective Equipment

- PPE will be used when seeing any patient with **suspected or confirmed COVID-19**.
- **'Buddy-system'** to ensure proper placement and removal of PPE.
- Avoid redundant evaluations/procedures to reduce exposure.

Introduction to Personal Protective Equipment

- All personal items including jewellery, watch, wallet, ID badge, pen and phone are to remain outside of the patient's room.
- Prior to entering any room:
 - Nails trimmed
 - Long hair tied
 - Beard shaved

Basic PPE

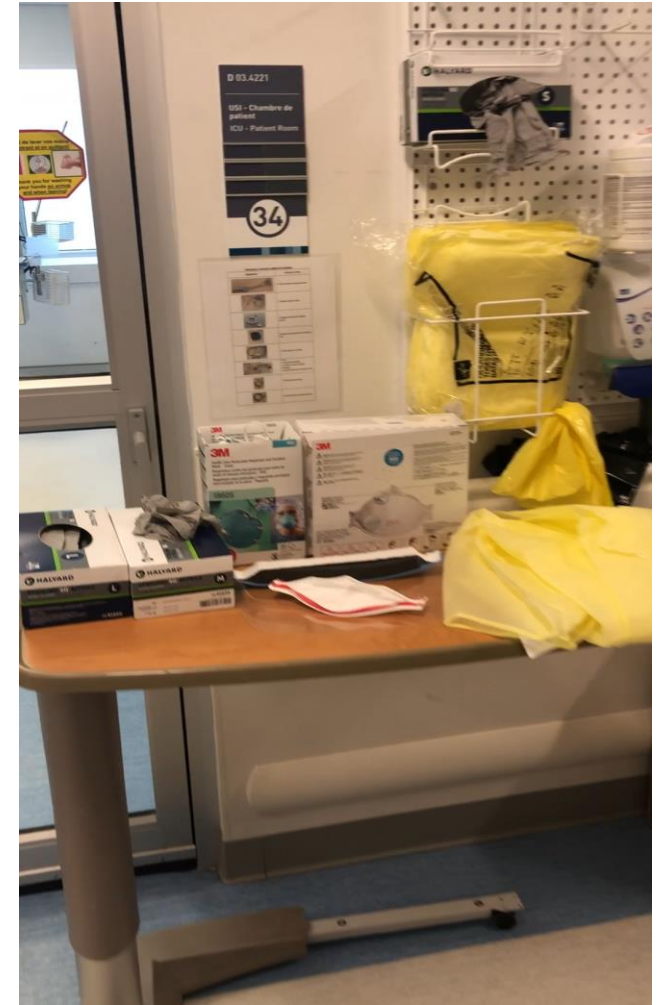
History and physical exam (excluding exam of eye, nose, mouth/throat) of patient or re-assessment for **suspected or confirmed COVID-19**.

Donning

(Putting on personal protective equipment)

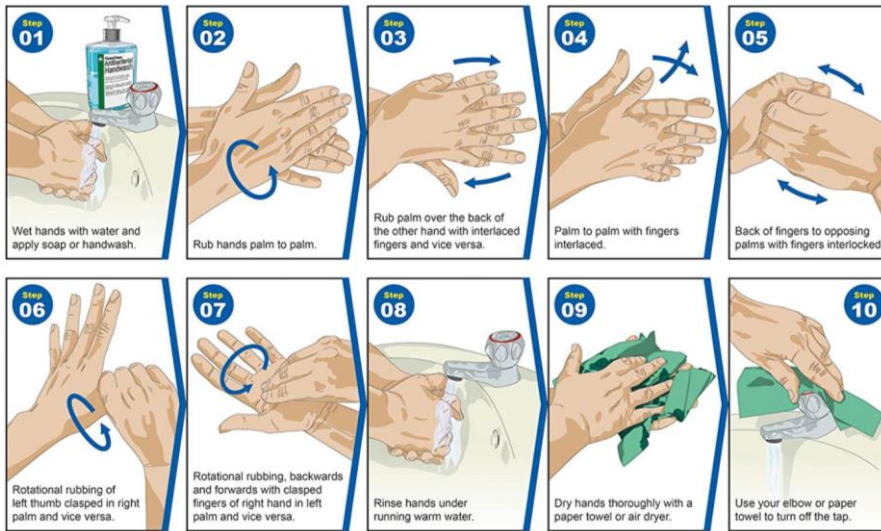
Necessary Equipment

- Gloves
- N95 respirator
- Face shield
- Gown
- Alcohol-based hand sanitizer or soap/water
- If possible, have a buddy



Step 1 – Wash hands

- Donning is outside the patients room.
- Wash hands for **30 seconds**, ensuring to wash in between digits, back of hand and wrist.



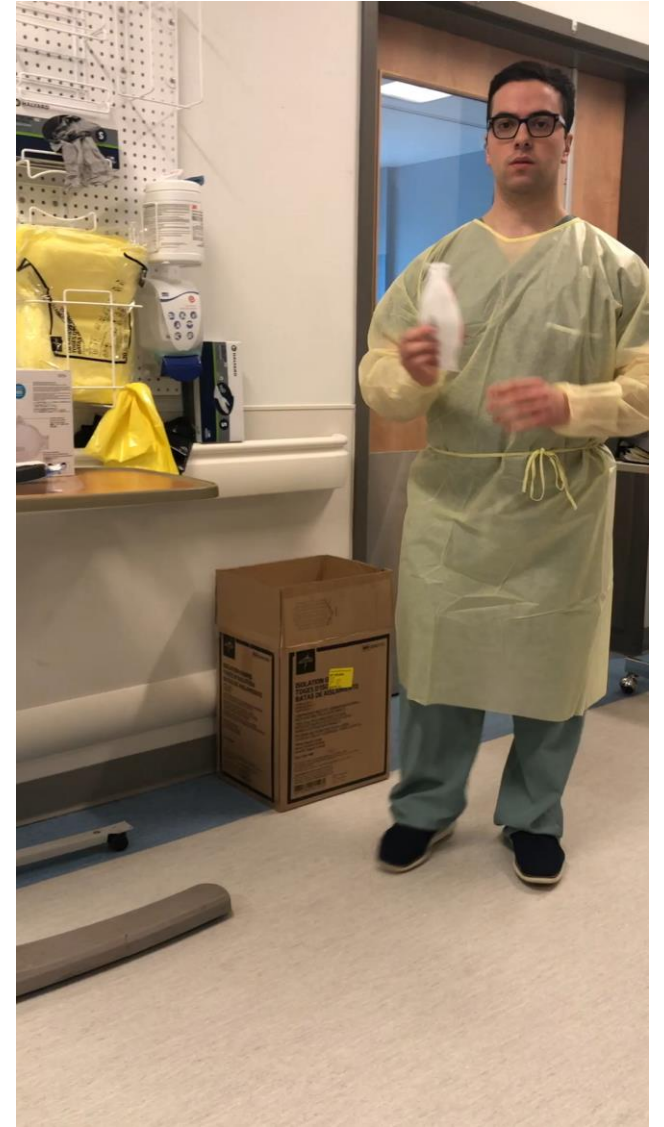
Step 2 – Place Gown

- Gown should cover neck to knees
- Use yellow-disposable gown for low-risk soiling
- **Tie in 2 places** to cover body fully
- Buddy to check gown placement



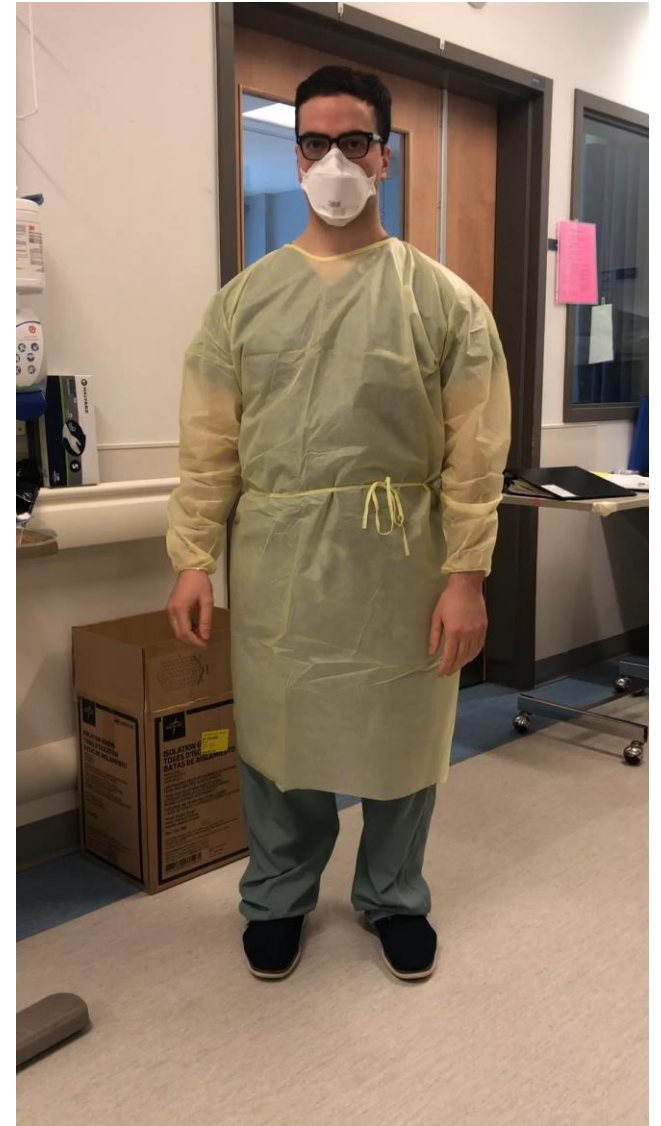
Step 3 – N95 Respirator

- Ensure use of correct N95 model (fit testing prior)
- Open fully and cup in hand
- Place over mouth and nose
- **Place upper band then lower band**
- Do not cross bands
- Compress nasal bridge to allow good seal (avoid pinching)
- Check for a **leak** (exhale sharply)



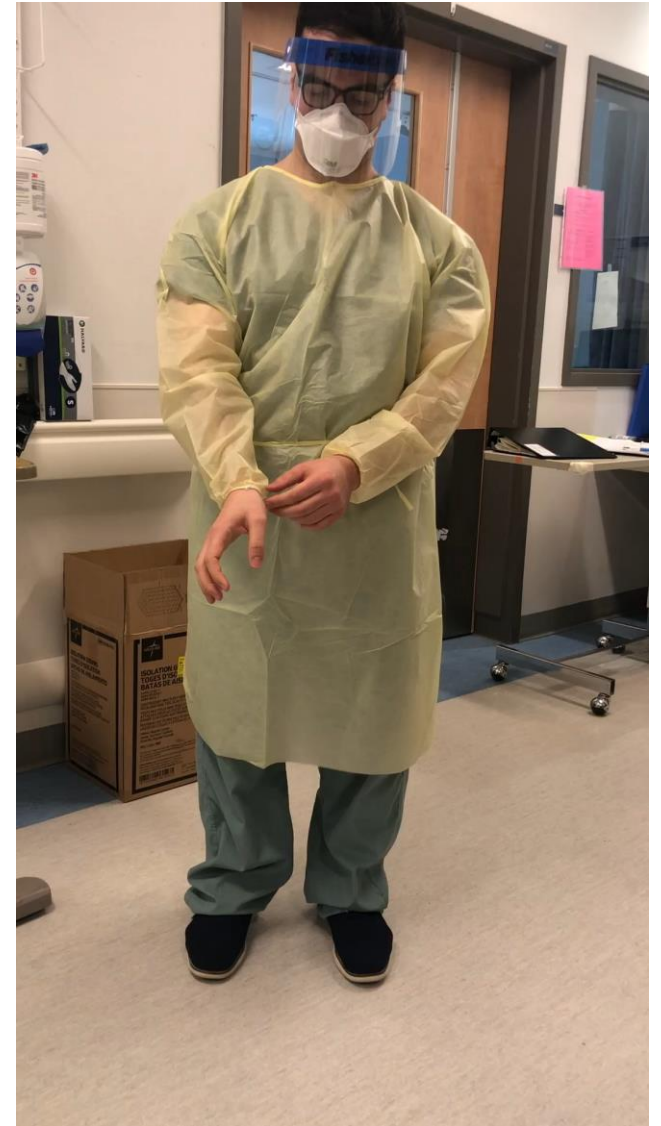
Step 4 – Face Shield

- Ensure covers entire face
- Elastic strap fitting well behind head



Step 5 - Gloves

- **Overlap** gown with glove
- Single pair of gloves
- Options:
 - *'Hole in sleeve'* to prevent wrist show
 - Consider long sleeve gloves (surgical gloves)
- Bend elbows and ensure adequate coverage of arm/wrist



Step 6 – Check + Enter room

- Ensure adequate placement of PPE by *buddy*
- Enter room



Summary of Donning

Step 1 – Wash hands

Step 2 – Place Gown

Step 3 – N95 respirator

Step 4 – Face Shield

Step 5 – Gloves

Step 6 – Check and then enter room

Doffing

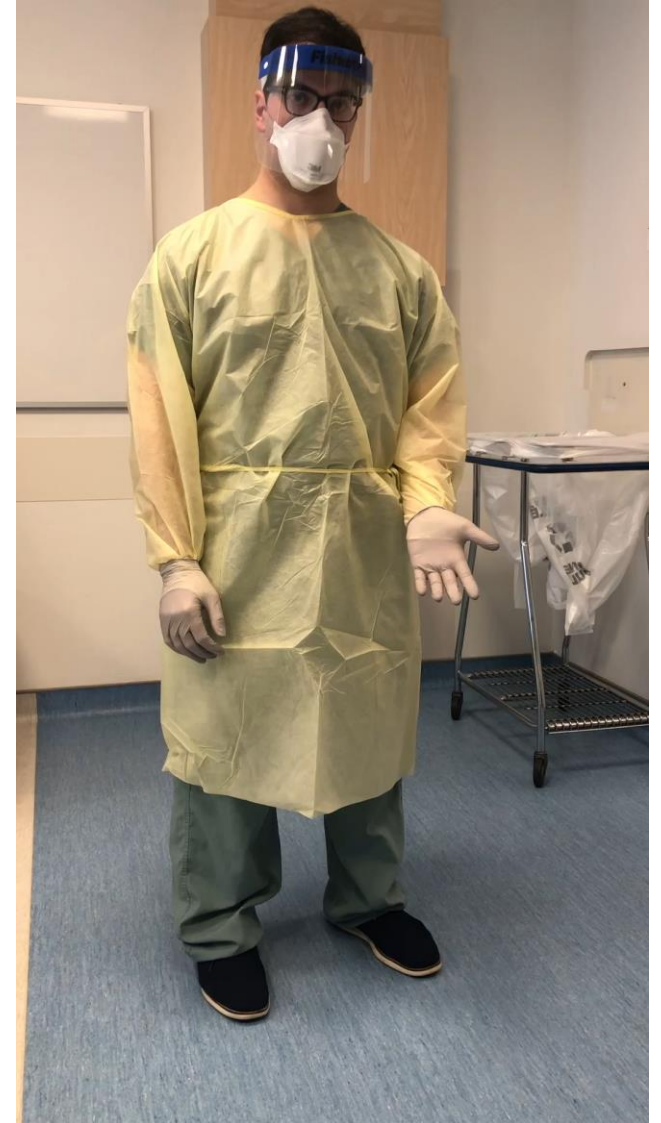
(Removing Personal Protective Equipment)

Doffing

- **After every step**, ensure to wash hands well for 30 seconds.
- The front of the gown, face shield and N95 respirator are considered most contaminated.
- Doffing of equipment is from '**back-to-front**'

Step 1 – Removal of Gloves (in room)

- Pinch and remove glove
- Roll glove off
- Slip finger of exposed hand underneath other glove
- **Counter-intuitive step**
- **Contamination** may occur when removing gloves
- Wash hands immediately after (water/soap or alcohol-based)



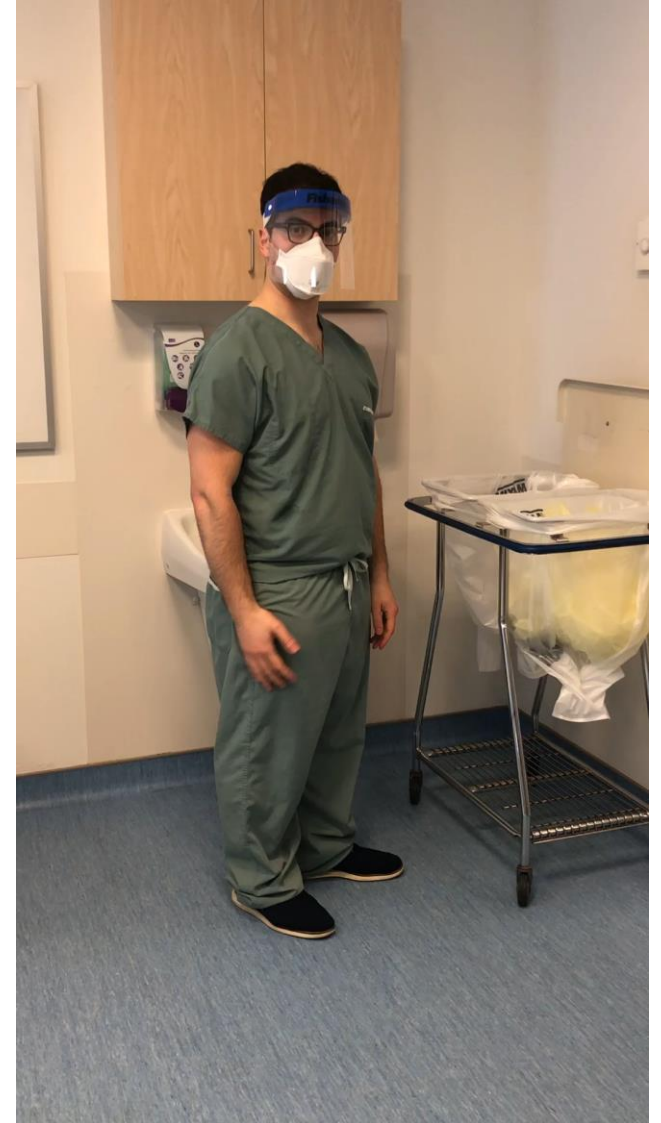
Step 2 – Removal of Gown (in room)

- Untie upper part of gown
- **Ensure elbows do not touch head** (risk of contamination)
- Remove gown from **back-to-front**
- Can rip lower waist tie
- Form in ball and dispose
- Wash hands immediately after (water/soap or alcohol-based)



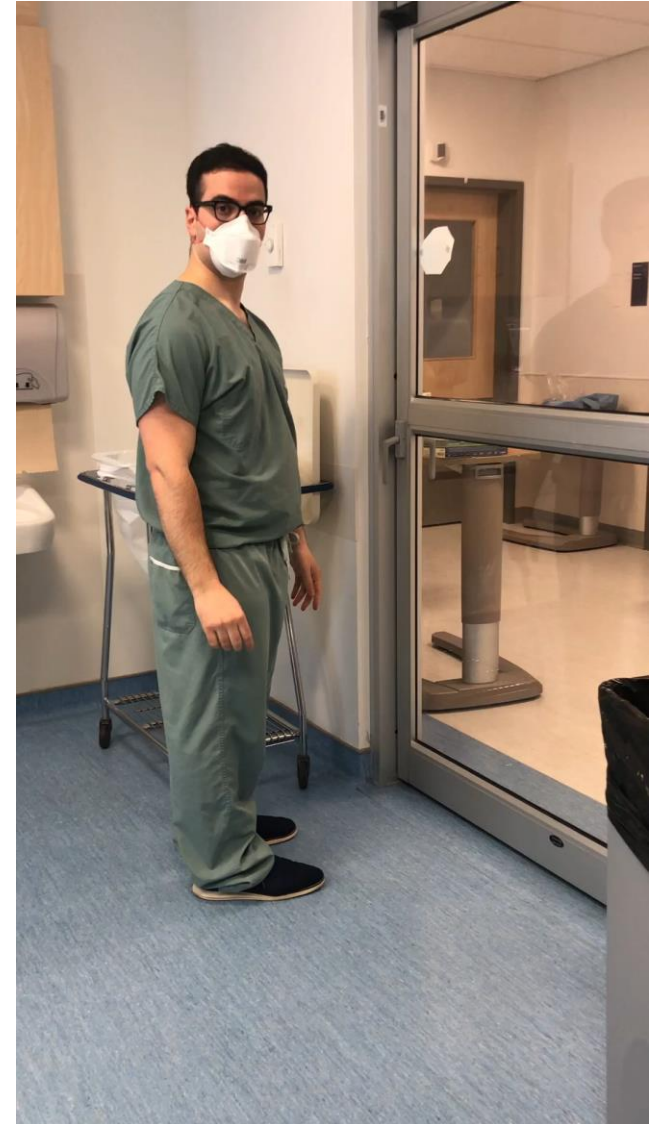
Step 3 – Remove Face Shield (in room)

- **Lean slightly forward** over biohazard waste bin
- Remove elastic at back of head
- Dispose in bin
- Wash hands immediately after (water/soap or alcohol-based)



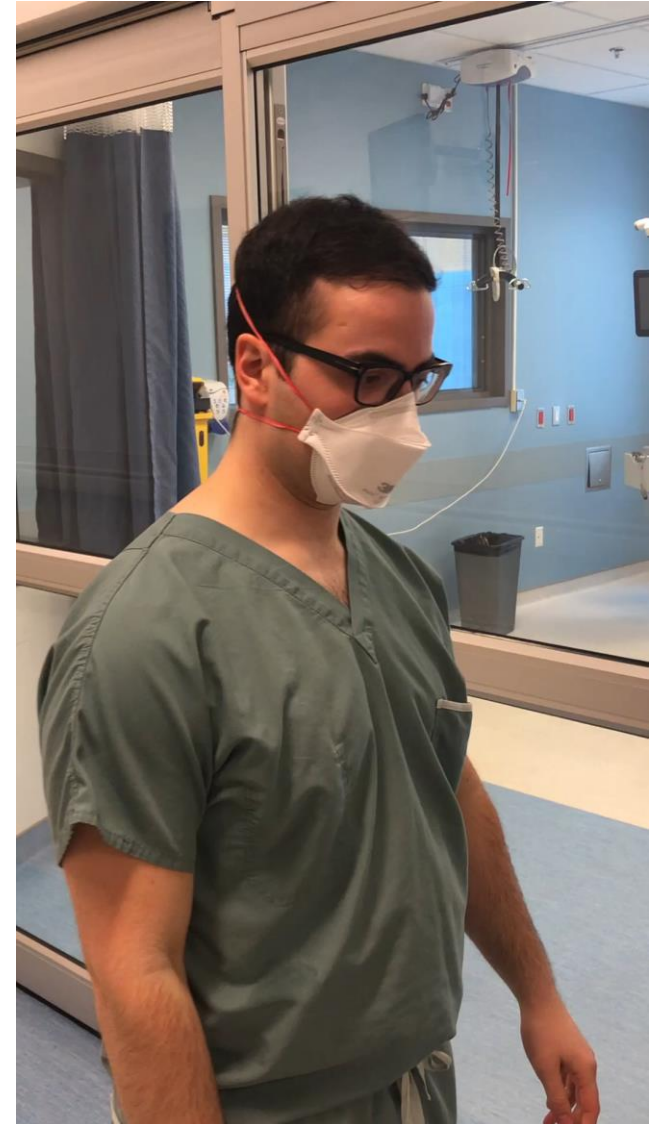
Step 4 – Exit Room and Wash Hands

- **Exit room before taking off mask**
- Avoid touching surfaces in patient's room
- Ensure door closed well
- Wash hands immediately upon exiting








Step 5 – Remove N95 Respirator (outside room)

- Lean slightly forward over waste bin
- **Remove lower strap first then upper** at back of head and maintain tension
- Dispose in waste bin
- Wash hands immediately after



Summary of Doffing

- Step 1 – Remove Gloves  Wash hands
- Step 2 – Untie and remove gown  Wash hands
- Step 3 – Remove Face Shield  Wash hands
- Step 4 – Exit Patient's Room  Wash hands
- Step 5 – Remove N95 respirator  Wash hands

Aerosol-Generating Medical Procedures

- Procedures involving manipulation of the upper aerodigestive tract can produce significant aerosols and require additional protection (blue, water-resistant gown).
- Examples: naso-gastric tube, oral/pharynx exam, laryngoscopy, nasopharyngeal swab/test for COVID-19, intubation/extubation.

PPE for Aerosol Generating Medical Procedure

Any evaluation or procedure which contacts the eyes, nose, mouth, or with oral, naso or tracheal secretions.

Donning and Doffing

- All steps are similar to PPE for non-aerosol generating procedures; however, the water-resistant (blue) gown is mandatory.
- Removal of gown and gloves can be performed **at same time**
 - Keep gloves on
 - No need to untie upper gown
 - Rip upper tie of gown and roll gown off with gloves
 - Wash hands afterward
- There is a lack of consistency regarding the recommendation of surgical hat and shoe covers.

Additional Tips

- Suggest closed shoes which are easily wipeable.
- While in hospital remain in scrubs, if possible.
- Cleaning glasses regularly with wipes
- Consider cleaning neck with face wipes or soap/water.
- Keep N95 respirator used for fit testing as a practice mask.
- Donning and doffing, especially with glasses, can be tricky. Practice makes perfect as these steps are not always intuitive.

Concluding Remarks

- Ensure someone checks your PPE placement prior to entering room.
- Wash hands after each step of the doffing.
- Avoid all redundant procedures/evaluations to minimize exposure.

PPE Champions thus far...

Kevin Lachapelle (Cardiac)
Francine Tremblay (GS)
Melanie Aube (Uro)
Emily Kay-Rivest (ENT)
Noura Alyouha (ENT)
Fatma Zaguia (Optho)
Jared Wilcox (Neuro)
Mohammad Khojah (OBGYN)
Bardia Barimani (Ortho)

Mohammed Alotaibi (Ortho)
Mohammed Alnouri (ENT)
Elisa Ruano (Peds)
Lianne Kopel (Peds)
Ahsan Alam (GIM)
Julia Santamaria (RT)
Patrick Willemont (GIM)
Amal Bessissow (GIM)
Linda Ofiara (Resp)
And others...

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PPE Videos

MUHC: <https://youtu.be/4VaTdL6uFwU>

CDC: <https://www.utmb.edu/covid-19/health-care-workers/don-and-doff-ppe>