The COVID Airway Safety Course
Instructor notes

Hand washing kata drill:
● Tends to be well received ● Participants take it seriously and have fun leading it after learning the pattern ○ Facilitator teaches 1 rep and then participants are chosen at random to lead the sequence in future reps and during the doffing drills. ● Teaching points ○ Participants need a lot more sanitizer then they normally use due to larger surface area being cleaned and evaporation from the increased time performing the drill. ○ Ensure participants verbalize the following consistent mantra while doing the drill ■ “Palms; Webs; Backwebs; Knuckles; Thumbs; Tips; Wrist” ■ Teaching steps with memorable cues ● Knuckle sandwich ● Hitchhiker: for thumb ● Shaolin: “praying mantis style” for finger tips https://youtu.be/eW-hmHFo4Oo

Donning & Doffing Instructions
● Use label of “Hot Team” vs “Cold Team” ○ This quickly communicates level of PPE required and where the participant will be during the maneuvers ○ Hot Team: Aerosol PPE: inside room and anteroom ○ Cold Team: Droplet PPE: outside room ■ Quick way to summarize Aerosol PPE is Droplet + N95 and Goggles ○ Order of Donning: N95 with seal check, Goggles, Face shield, Bouffon LAST (so it can be easily removed) then Gown then gloves over wrists. ● Doffing ○ Large Doffing poster near exit of Hot Room and in Anteroom/Hallway ○ “Hot Runner” “simon says” leads Doffer through doffing from anteroom

Donning/Doffing Teaching points

- Remove all personnel equipment before entering room (Jewellery, watches, **stethoscopes**, ID badges, pager, phones)
    - No stethoscopes allowed in protected intubation

Donning Order

- 1.) Mask first and perform seal check
- 2.) Goggles
- 3.) Face Shield: Ensure tipped forward to protect face
- 4.) Bouffon: must be on top for easy removal, wear especially if hair danges into face
- 5.) Gown:
    - Cynch up neck so that minimal amount of neck and upper chest are exposed
    - Ensure wrists are covered: most frequently observed breech
- 6.) 2 pairs gloves
    - Double Glove for Hot Team due to likelihood of ++ soiling by respiratory secretions.

No "Hot Team" member shall enter the room before PPE verified by "Cold Team" safety officer

Doffing order

- Hot Room
    - Outer pair of gloves
    - Bouffant
    - Inner pair of gloves
    - Hand hygiene (HH)
    - Gown
        - Keeping Chest out Head Up to avoid chin touching soiled from of gown
            - Untie waist of gown
            - Untie Neck and roll down from shoulders (do not pull off from chest)
    - HH
    - Exit Hot Room using hand on door handle (not elbow or butt as these are hard to wash unlike your hands)
- In Anteroom/Hallway
    - HH
    - Hinge forward at hips over disposal bin to allow items removed from head to fall forward down onto chest or face
        - Remove shield -> HH -> Goggles – reprocessed (need separate container) ->Hand hygiene ->Mask (bottom strap first then upper strap) -> Hand hygiene

https://youtu.be/fGaMwpLrLhk

Equipment Organization

Getting Equipment into the Hot Room

All equipment must go in at once. Anteroom functions as airlock: do not open both doors at once

- Note: Back up plan (B/C/D airway adjuncts) are on a tray in the cold area but immediately available to be passed by cold team runner to hot team runner
- LMA/Scalpel/Bougie and Stethoscope are NOT brought into the room empirically and must be called for.
- Stethoscope is prohibited from entering the Hot area

How to get all the equipment into the room at once

- RT brings in
    - Vent – with insp/exp filters ; dry circuit with HME for ER and heated for ICU
    - BVM – inline suction -> Green filter (mechanical filter) -> ETCO2 -> BVM (bring mask in but not attached to BVM setup)
- Intubator brings in
    - Glide scope or DL depending on preference – plan A (in room); Plan B/C (in hallway)
    - Intubating Tray
        - ETT/stylet/syringe – prep outside of room
        - HiOx mask with green nipple
- Medicator brings in push dose drugs
    - RSI: Ketamine/Rocuronium
    - Push dose pressor: Epinephrine
- Hot Runner will bring in infusions after RSI completed
    - Post intubation package
    - Pressor infusion

https://youtu.be/B0GGqRurPn8

Team organization

Roles Assignment:

- TL to use aid/checklist
- TL to physically divide the participant roles of Hot (inside)/Cold(outside) ie. “I will assemble my Hot team to my left, Cold team to my right”
    - “Hot Team” : Aerosolizing PPE (ie droplet + N95 and Goggles)
        - “Intubator” (most experienced)
        - “Ventilator” (RT)
        - “Medicator” (either RN or resuscitation MD)
        - “Hot Runner” (Doffing Police) (RN//MD)
    - “Cold Team”: Droplet PPE
        - “Charter” RN
        - “Officer” (Donning Police) RN/MD
        - “Cold Runner” RN/RT
- Intubator to discuss Plan A and B; use technique that you are comfortable with
    - A: glidescope preferred but DL if most comfortable
    - B: Mac Blade w Bougie
    - C: LMA
- Cold team roles prior to Hot team going in
    - Cold team helps Hot team gown up eg. Tie back of gowns
    - Safety Officer physically blocks the door to the anteroom. Verbally checks every Hot Team member prior to entering anteroom. Bouffon, Visor, Goggles, N95, Gown tied up tightly, wrists tucked (helps each member to pull sleeves inside gloves.)
- Hot runner (last one in and spends duration of case in anteroom: in aerosol PPE (N95) to watch for breeches; tap out with inside personnel if needed; hand over equipment (without touching inside person supervises doffing “Doffing Police”)

Sample Script

- “Hi Team, we’ve been asked to intubate this sick COVID patient. I know everyone is feeling stressed right now but we have trained for this. We’re going to fall back on that training and take this slow and steady. We’ve got each others backs”
- “I am the team leader. I'm going to divide you up into a “hot” and a “cold” team. “Hot’ team on my left will donn aerosolizing precautions, Cold Team on my right will donn droplet.”
- “In my hot team I’d like you John to be the intubator, you’ll be responsible for bringing in the glidescope and in a moment please share your airway plan with us, Janet you are the RT and will bring in the ventilator and the intubation tray and Joan you’ll be the medicator and bring in our push dose RSI and pressor drugs. Jill I’d like you to be my hot runner, you will stand in the anteroom in aerosolizing precautions and pass any equipment that is needed into the room and be ready to spell off a contaminated team member. Most importantly Jill you will supervise all doffing in a “simon says fashion. John please discuss your intubation plan with your team and get yourselves ready.”
- “In my cold team I’d like you Jacob to be the Charting RN, Johanna you will be the “cold” runner and Jessica you will be the safety officer. Noone may enter the anteroom until Jessica

has verified your PPE. Cold team please assist the Hot team with Donning their PPE."

https://youtu.be/5Hju7W55qmw

Safety Officer "Donning Police" Checklist

- ❏ Head to Toe:
  - ❏ Bouffant on top of all other head gear
  - ❏ Face shield not tipped up exposing face
  - ❏ Goggles
  - ❏ N95 Mask
  - ❏ Gown tied up appropriately
  - ❏ Gloves x2 covering wrists

Integration Exercise 2 reps

RSI:

Stem

- "This is John, he is one of our ER RN's. He swabbed positive for COVID last week and has been at home under quarantine. He has become progressively SOB and called EMS today. He has been put in our negative pressure isolation room. He has an IV in situ. His vitals are: HR 110, BP 130/90, RR: 36, SaO2 85% on 5L NC, Temp: 37.7 ICU is full. We have to intubate in the ED"

Preox:

- Sit patient upright
- Place HiOx immediately – can be placed over NP (if already in place)
- Do not hold BVM over face – might be tempted to bag ** verbally communicate no plan to BVM with team
- If bagging required; 2 person, 2 handed. Smaller volumes when delivered due to risk of aerosolization

RSI Drug administration:

- High dose Rocuronium (2mg/kg) to speed up onset of paralysis: equivalent to Sux (~45s)
- RSI drug pusher counts down time **out loud** to team
- Anticipate desaturation. TL to verbalize "this is to be expected".
- Anticipate brady – prophylaxis and or rx with epi
- DO NOT attempt to intubate earlier than the 45- 60 sec as the patient will cough/aerosolization will occur.
  - This is the key point: as patient desats into hypoxic bradycardic pre-arrest temptation will be to bag or to intubate early

- Avoid this
- Use Push Dose Epi to Prophylax/Treat this

ETT in place:

- Cuff up immediately and attach to BVM or Vent
- Ensure number/position at lip or teeth eg. 22 – 24 at lip
- Placement confirmed with ETCO2/Colorimetric (change color); visible chest rise, Vent pressure
- Prevent Right Mainstem by proper tube insertion depth, equal visual chest rise, Vent pressure and Volumes
- Do not use stethoscope unless absolutely necessary
- CXR with personnel in the room is ok - risk from radiation is not a concern

Vent Settings:

- Mode – volume control
- Resp Rate – 24 – 28 bpm
- Peep 10 cmH20
- Volume – 6 cc/kg
- FiO2 .80 - .90