Department of Anesthesiology Update on COVID 19

Friday, March 20th, 202

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Agenda- COVID 19

- Protecting yourself — K Lauer
  - Donning and Doffing PPE — D Pugh
  - Intubation protocol
- Emergency Airway protocol — CSpofford
- OR protocol — J Laur
- Blood Policy — M Fierro
- MCW policies for exposure and travel — Lien
- Self care — Lien

How to protect yourself

- Great info: https://www.cdc.gov/coronavirus/2019-ncov/hcp/index.html
- Updated PPE recommendations for the care of patients with known or suspected COVID-19:
  - Facemasks protect the wearer from splashes and sprays.
    - Respirators, which filter inspired air, offer respiratory protection
  - Eye protection, gown, and gloves continue to be recommended.
    - If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP.
  - Patients with known or suspected COVID-19 should be cared for in a single-person room with the door closed. Airborne Infection Isolation Rooms (AIIRs)

Aerosolizing procedures

- procedures that are likely to induce coughing (e.g., sputum induction, open suctioning of airways) should be performed cautiously and avoided if possible.
- If performed, the following should occur:
  - HCP in the room should wear an N95 or higher-level respirator, eye protection, gloves, and a gown.
  - The number of HCP present during the procedure should be limited to only those essential for patient care and procedure support. Visitors should not be present for the procedure.
  - AGPs should ideally take place in an AIIR.
  - Clean and disinfect procedure room surfaces promptly as described in the section on environmental infection control below.

Recommendations for Airway Management in a Patient with Suspected Coronavirus (2019-nCoV) Infection

Liana Zucco[1, 2], Nadav Levy[1,2], Desire Ketchandji[3], Mike Aziz[3], Satya Krishna Ramachandran[1]
1.Beth Israel Deaconess Medical Center Dept Anesthesia, Critical Care & Pain Medicine, Boston, USA
2. Healthcare Quality and Safety (MHQS), Harvard Medical School, Boston, USA
3. Oregon Health & Science University, Department of Anesthesiology & Perioperative Medicine, Portland, Oregon, USA

General

Your personal protection is **the** priority. Personal protective equipment (PPE) should be available for all providers to ensure droplet/contact isolation precautions can be achieved. Providers and organizations should review protocols for donning and doffing PPE. Careful attention is required to avoid self-contamination.

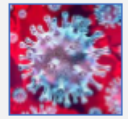
Patients with confirmed or suspected 2019-nCoV infected cases:

- Should **NOT** be brought to holding or PACU areas
- Should be managed in a **designated OR**, with signs posted on the doors to minimize staff exposure.
- Should be **recovered in the OR** or **transferred to ICU** into a negative pressure room. Ensure a high quality HMEF (Heat and Moisture Exchanging Filter) rated to remove at least 99.97% of airborne particles 0.3 microns or greater is placed between the ETT and reservoir bag during transfers to avoid contaminating the atmosphere.

Plan ahead:

- For time to allow all staff to apply PPE and barrier precautions
- Consider intubation early to avoid the risk of a crash intubation when PPE cannot be applied safely.

During Airway Manipulation



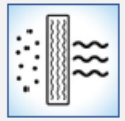
Apply:
- Disposable mask, goggles, footwear, gown and gloves. Consider adopting the **double glove** technique.
- Standard ASA monitoring should be applied before induction of anesthesia.
- N95 mask at a minimum should be utilized. PAPR devices may offer superior protection when manipulating an airway of an infected patient.

Assign:
- Designate the most experienced anesthesia professionals available to perform intubation, if possible. Avoid trainee intubation for sick patients.

Avoid:
- Awake fiberoptic intubation, unless specifically indicated. Atomized local anesthetic can aerosolize the virus.

Prepare to:
- Preoxygenate for 5 minutes with 100% FiO2
- Perform a rapid sequence induction (RSI) to avoid manual ventilation of patient's lungs and potential aerosolization of virus from airways.
- Consider using a video-laryngoscope.

RSI:
- Depending on the clinical condition, the RSI may need to be modified. If manual ventilation is required, apply small tidal volumes.



Use:
- Ensure there is a high quality HMEF (Heat and Moisture Exchanging Filter) rated to remove at least 99.97% of airborne particles 0.3 microns or greater placed in between the facemask and breathing circuit or between facemask and reservoir bag.

Dispose:
- Re-sheath the laryngoscope immediately post intubation (**double glove technique**)
- Seal all used airway equipment in a double zip-locked plastic bag. It must then be removed for decontamination and disinfection.

Remember:
- After removing protective equipment, avoid touching your hair or face before washing hands.

PRINCIPLES* OF AIRWAY MANAGEMENT IN

CORONAVIRUS COVID-19

FOR SUSPECTED/REPORTABLE** OR CONFIRMED CASES OF COVID-19

BEFORE

STAFF PROTECTION

- Hand Hygiene
- Full Personal Protective Equipment***
- Minimize Personnel During Aerosol Generating Procedures****
- Airborne Infection Isolation Room (if available)

PREPARATION

- Early Preparation of Drugs and Equipment
- Meticulous Airway Assessment
- Use Closed Suctioning System
- Formulate plan Early
- Connect Viral/ Bacterial Filter to Circuits and Manual Ventilator
- Use Video Laryngoscopy (Disposable if available)

DURING

TEAM DYNAMICS

- Clear Delineation of Roles
- Clear Communication of Airway Plan
- Closed-loop Communication Throughout
- Cross-monitoring by All Team Members for Potential Contamination

TECHNICAL ASPECTS

- Airway Management by Most Experienced Practitioner
- Tight Fitting Mask with Two Hand Grip to Minimise Leak
- Ensure Paralysis to Avoid Coughing
- Lowest Gas Flows Possible to Maintain Oxygenation
- Rapid Sequence Induction and Avoid Bag-Mask Ventilation When Possible
- Positive Pressure Ventilation Only After Cuff Inflated

AFTER

- Avoid Unnecessary Circuit Disconnection
- If Disconnection Needed, Wear PPE and Standby Ventilator +/- Clamp Tube
- Strict Adherence to Proper Degowning Steps
- Hand Hygiene
- Team Debriefing

Donning and Doffing

Donning
For COVID 19 intubation

- Shoe Covers placed
- Gown placed
- Mask placed (N95 OR PAPR)
- Second mask placed over N95 (regular surgical mask)
- Eye protection placed
- Double Gloves RN
  - First pair of gloves cover the sleeve of the gown
  - Remaining pair should cover the wrist
- Triple Gloves for Anesthesiologist and Respiratory
  - First pair of gloves cover the sleeve of the gown (Surgical gloves)
  - Remaining pair or two should cover the wrist
- Head Covering placed (disposable)
- Before you go into the room, double check all team members to ensure proper PPE

Doffing

- Staff member will begin doffing at the doorway
- In the room, use hand sanitizer on last set of gloves
- Remove gloves and gown together
- Hands are sanitized
- Put on clean gloves
- Eye protection is removed and set in a Ziploc for washing/sterilizing
- Shoe covers removed
- Head cover is removed
- Outer mask is removed and discarded
- Remove gloves
- Hands are sanitized
- Leave the room and close the door
- The N95 is removed and placed in a Ziploc lock bag, labeled with your name and saved. (It can undergo treatment with UV light to kill COVID-19 and be re-used)
- Wash hands, face and neck with soap and water
- *You may sanitize and glove as needed between steps*

AIRWAY RESPONSE CALLS

Slide 2: PUI or COVID19

Slide 3: All other hospitalized patients

Personnel and PPE for Airway Response Calls: PUI or COVID-19 patient

Protect yourself and fully don PPE!

In-room personnel

1. Faculty anesthesiologist
2. RRT nurse
3. Respiratory therapist

PPE: Fully donned with shoe covers, isolation gown, double- or triple-gloved, and
(A) N95 mask, surgical mask over N95, eye protection, ***or***
(B) PAPR with optional eye protection

Door closed when possible

Outside of room personnel

1. MICU resident
2. Pharmacist
3. TICU nurse
4. Anesthesia resident/CRNA

Personnel and PPE for Airway Response Calls for all other patients

Only change is PPE

In-room personnel

1. Faculty anesthesiologist
2. RRT nurse
3. Respiratory therapist

PPE: Isolation gown, N95 mask or surgical mask (at provider discretion), eye protection, double-to-triple gloved

Door closed when possible

Outside of room personnel

1. MICU resident
2. Pharmacist
3. TICU nurse
4. Anesthesia resident/CRNA

Code Calls

PUI or COVID-19 patient with cardiopulmonary arrest

Step 1
Follow usual procedures of BLS/ACLS:
- Activate emergency response system.
- Obtain AED or Zoll.

Step 2
Ensure all members are fully donned in PPE*.
Protect yourself first!

Step 3
Perform chest compressions only.
Do not provided assisted ventilation.
Attach AED or Zoll.

***PPE:** Fully donned with shoe covers, isolation gown, double- or triple-gloved, and
(A) N95 mask, surgical mask over N95, eye protection, ***or***
(B) PAPR with optional eye protection

Step 4
After donning PPE*, faculty anesthesiologist will secure airway.

Step 5
Once airway is secured, immediately attach bag-valve-mask (BVM) with viral filter to begin ventilation.

Step 6
Clamp endotracheal tube whenever BVM detached and/or upon termination of resuscitation efforts (if patient dies).

Code Calls

All other patients with cardiopulmonary arrest

Step 1
Follow usual procedures of BLS/ACLS:
- Activate emergency response system.
- Obtain AED or Zoll.

Step 2
Use contact and droplet precautions*. Protect yourself first!

***PPE:** Isolation gown, N95 mask or surgical mask (at provider discretion), eye protection, gloves

Step 3
Perform chest compressions.
Provided assisted ventilation.
Attach AED or Zoll.

Step 4
After donning appropriate PPE*, faculty anesthesiologist will secure airway.

Step 5
Once airway is secured, immediately attach bag-valve-mask.

Step 6
Proceed with usual BLS/ACLS care.

Personnel and PPE for Code Calls: PUI or known COVID-19 patient

Protect yourself and fully don PPE!

In-room personnel

1. MICU resident (team leader)
2. Faculty anesthesiologist
3. Respiratory therapist
4. Pharmacist at 10 ft / 3m distance
5. Nurse 1*
6. Nurse 2*

SICU charge RN
Documentation from doorway or just inside room (at discretion)

Door closed when possible (esp. during intubation)

Outside of room personnel

1. Back-up RT
2. Back-up pharmacist
3. MICU intern

<u>*Nurse pool*</u>

First 2 on scene enter room. All other remain outside.

1. CVICU charge RN
2. NICU charge RN
3. MICU charge RN
4. RRT RN

PPE: Fully donned with shoe covers, isolation gown, double- or triple-gloved, and

(A) N95 mask, surgical mask over N95, eye protection, ***or***

(B) PAPR with optional eye protection

Personnel and PPE for All Other Code Calls

Only change is PPE

In-room personnel

1. MICU resident (team leader)
2. Faculty anesthesiologist
3. Respiratory therapist
4. Pharmacist at 10 ft / 3m distance
5. Nurse 1*
6. Nurse 2*

SICU charge RN
Documentation from doorway or just inside room (at discretion)

Door closed when possible (esp. during intubation)

Outside of room personnel

1. Back-up RT
2. Back-up pharmacist
3. MICU intern

Nurse pool

First 2 on scene enter room. All other remain outside.

1. CVICU charge RN
2. NICU charge RN
3. MICU charge RN
4. RRT RN

PPE: Isolation gown, N95 mask or surgical mask (at provider discretion), eye protection, double-to-triple gloved

Operating Room Rule-Out or Confirmed COVID-19 Isolation Workflow v.3 03/18/2020

1) Case posted for patient suspect or confirmed case of COVID-19 will be identified as 'COVID-19' or 'Rule-Out COVID19' on the infection section in the patient's electronic chart, next to the isolation status.
2) Patient will be in Standard/Droplet/Contact isolation. The OR will treat this patient as Airborne Isolation for intubation and extubation. Process outlined below.
3) OR Front Desk to page the leaders of COVID case
4) OR Front Desk to call: - AIC: 50017, Lead Anes Tech: 50026, EVS Lead: Vocera, PACU Charge: 52760
5) AIC & OR Charge to determine the appropriate OR for case to be placed.
6) OR Front Desk calls Manager or Charge of PACU to determine which negative pressure isolation bay the patient will be intubated in (NOTE CONSIDER INDUCTION IN THE PACU BAY)
7) Notify the Transport Lead at 54555 as an additional precaution. Patient should be transported with Standard/Droplet/Contact/ Eye protection isolation precautions. Transport staff and the patient should wear a surgical mask during transport.
8) Assigned OR Staff or OR Charge Nurse to retrieve isolation cart and place the cart with appropriate PPE and signage outside of the designated Operating Room.
9) Assigned OR Staff to remove all non-essential supplies and equipment from the designated Operating Room suite.
10) OR Charge to designate an outside runner for the case.
11) In Room Process for COVID Isolation: It is recommended that the case be the last in the OR suite for the day. All staff must wear appropriate PPE. OR staff need to wear an N95 mask or PAPR/CAPR during intubation if they are within 6 feet of the patient. Once patient is intubated, staff should continue Standard/Droplet/Contact with eye wear isolation precautions and can wear a surgical mask.
12) After transferring the patient to the OR table, strip the sheets from the transport bed/cart, wipe it with a Sani-cloth, and remake it. The bed/cart must be left in the OR, if possible. Only the double entry doors should be used during these cases. Doors to the core should remain closed.
13) Nonessential personnel will not be allowed in the room.
14) Anesthesia will place a non-latex filter circuit on the ventilator Outside runner will make a list of personnel in the room and will forward this to the OR Charge.

After Procedure Process for COVID Isolation:

1. After the case, staff should remove glove, gown, and mask used during the case and perform proper hand hygiene.

2. Staff should re-glove and re-mask, then transport the patient to the PACU isolation room.
3. Notify PACU staff of patient's isolation status so that they can key in the negative pressure alarm.
4. Staff need to wear N95 mask or PAPR/CAPR during extubation if they are within 6 feet of the patient. After extubation, patient should remain in Standard/Droplet/Contact isolation with eye wear precautions.
5. After transporting patient to recovery area, remove gloves and perform proper hang hygiene.
6. Normal process should be followed regarding instrument processing and case cart transport.
7. Staff are to change scrubs after the case OR should remain vacant postoperatively for sufficient time to allow for a full exchange of air, 1 hour.

Blood policy- approved last night

Goals:

- Implement evidence-based blood transfusions practices which maintain or improve quality of care, while being effective stewards of a limited blood supply
- Reduce blood-transfusion related adverse events (COVID-19 is not known to be transmissible through blood transfusion)
- Standardize departmental blood transfusion practices
- Utilize blood transfusion as a treatment of impaired oxygen delivery
- Maintain < 10% variance from defined MPOG metrics
- Only give blood when improvement in patient outcome from the unit administered outweighs the pulmonary, infectious, and cardiac risks, as well as risk of ABO mismatch due to human or technical error

Target Patients:

- Inclusions: All adult surgical patients considered for transfusion of red blood cells
- Exclusions: ASA 6 Patients, Massive Transfusion Patients, Patients currently being treated for hemorrhagic shock, Liver Transplant Patients
- Relative Exclusions: ASA 5 Patients, Trauma patients (MTP cooler contents have been reduced, EBL > 2000 mL, Cardiac surgical patients (part of separate pathway)

Transfusion Policy

- Blood transfusions must be discussed with the attending anesthesiologist prior to administration (this can include setting parameters & plan before transfusion needed)
- Notification of the attending surgeon prior to blood administration. (Consider discussing current state of blood loss, anticipated future blood loss, and transfusion triggers)
- Transfusions should be given one unit at a time, with a re-check in-between units unless hemoglobin < 5 g/dL
- Blood transfusion metrics from the Multiorganization Perioperative Outcomes Group (MPOG) will be considered departmental standard. Some transfusions outside of these metrics will be expected and can be clinically indicated. Specific rationale (beyond acute blood loss anemia) should be documented in the anesthesia record at the time of the transfusion
- Only store RBC's and FFP in Central OR refrigerator, OR refrigerator, or under ice in cooler (NEVER on anesthesia cart or at room temperature)
- ONLY ask circulator for the unit of blood you are immediately hanging.
- Consider using restrictive transfusion thresholds when hemodynamically appropriate (7 g/dl or less)
- Consider ordering RBC's from the blood bank one unit at a time

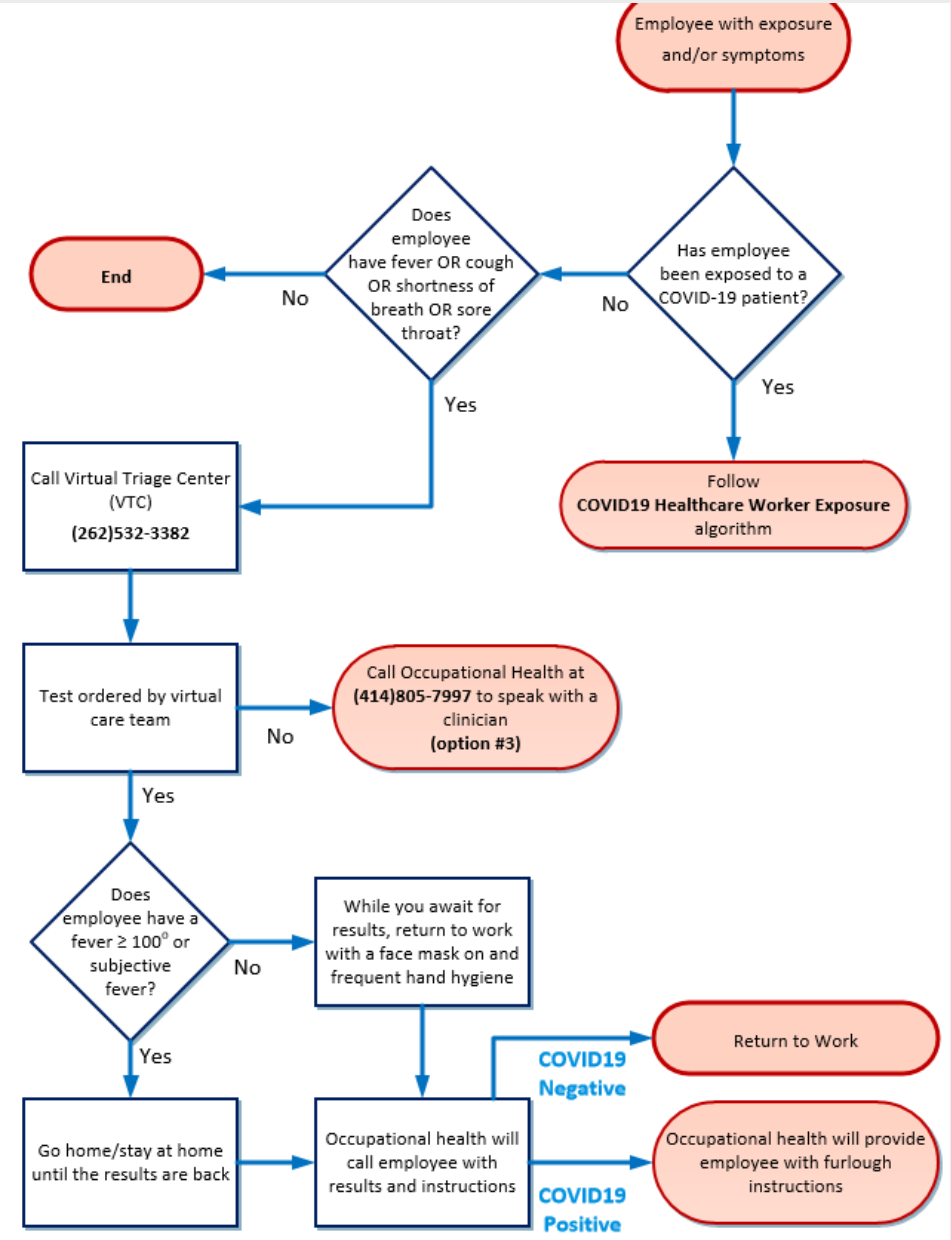
Blood Transfusion Metrics

Adapted from MPOG

- Assessment and documentation of hemoglobin <8 g/dL prior to red blood cell transfusion (this can include a measurement within 72 hours prior to surgery)
- -Consider transfusion threshold of 7 g/dL or less in appropriate patients
- Assessment & Documentation of hemoglobin after each individual unit of blood given (unless hemoglobin <5 g/dL prior to transfusion of two units)
- Documentation of discussion with surgical team and rationale for transfusion if given outside of criteria 1 &2

MCW Policies for travel and infection

- Fluid



Self Care