UW Montlake ECMO for COVID-19

CONSULTATION, REERRAL, CANNULATION AND PATIENT MANAGEMENT

Outside Hospital Referral

• Outside hospital calls for ECMO referral to UW TC should be directed to UWMC Montlake.
  a. Given complex decision making involved, referrals and patient transport should occur during the day.
• TC will page a Montlake ECMO leadership member (Jenelle Badulak, Peter von Homeyer, Aaron Cheng, Mike Mulligan) to speak with referring MD and decide on ECMO candidacy.
• If ECMO candidate, huddle will occur with Montlake incident commander, medical staff supervisor, operations chief, COVID ICU attending and an ECMO leadership member to assess capacity to accept ECMO referral.
• If Montlake capacity is low, ECMO leadership will reach out to PNW ECMO consortium (starting with HMC).
• If accepted to Montlake:
  a. ECMO leadership will notify the CTICU attending (ECMO consultant for COVID ICU team)
  b. TC will connect COVID ICU attending and referring doctor for doc-to-doc.
• After the patient arrives on 5E, the patient will be evaluated by the CTICU attending in conjunction with ECMO leadership.
• If decision made for cannulation, ECMO leadership will identify appropriately trained cannulation team (one attending facile with cardiac POCUS to cite wires/cannula in IVC, one cannulator).

In-House Consultation

• The primary team should follow the usual pathway for ECMO consultation for medical respiratory failure, available on OCCAM ECLS Toolkit: call the operator and ask for the ECMO consult attending (CTICU attending).
• The CTICU attending should contact a member of UWMC ECMO leadership (Jenelle Badulak, Peter Von Homeyer, Aaron Cheng, Mike Mulligan) who will have a group discussion to make the decision to proceed with ECMO or not.
• If accepted for cannulation, ECMO leadership will identify appropriately trained cannulation team (one attending facile with cardiac POCUS to cite wires/cannula in IVC, one cannulator).

Cannulation

• As the majority of critically ill patients with COVID-19 will be located in an isolation pod (COVID ICU), the ECMO team should be mobilized to that location (do not move the patient).
• Preparation of the patient by primary team:
  a. Right IJ and (ideally right) femoral vein open for use (additional central access in other locations)
  b. Deep sedation, neuromuscular blockade
Cannulation should be performed at bedside with as little equipment and personnel possible to allow a safe cannulation procedure while at the same time protecting staff.

a. Cannulation configuration: two cannulas (right internal jugular and ideally right femoral vein)

b. Equipment in the room:
   i. Ultrasound for vascular access, site wires in IVC and site venous drainage cannula at IVC-right atrial junction
   ii. Cardiohelp pump & circuit, clamps, emergency priming line, 1 L crystalloid
   iii. Cannulation supplies (in large bag):
      1. heparin bolus
      2. large prep stick x3
      3. laparotomy drape: prep in right IJ, femoral vein, subxiphoid space (for ultrasound)
      4. 6 pack sterile towels x2
      5. sterile trauma shears
      6. skin stapler
      7. ultrasound probe cover x2
      8. Sorin dilator kit
      9. central line kit
     10. 5Fr sheath
     11. amplatz super stiff wires x2 180cm
     12. 4 sterile tubing clamps
     13. ECMO major pack: Asepto syringe, basin, sterile table field, scalpel
     14. 1 L sterile plasmalyte
     15. 4x4 boat gauze x4
     16. needle driver
     17. 0 polysorb 5 pack x3
     18. foley holders to secure cannulas
     19. 20 Fr return, 25 Fr drainage cannulas
     20. NOT IN BAG (need to get): 4 sterile disposable gowns, 4 gloves, 2 hats

   iv. Cannulators: put on disposable surgical gown and surgical gloves and PAPR/airborne PPE outside of room (non-sterile), put on second set of sterile disposable surgical gown & surgical gloves once inside the room. Don’t wear plastic PPE gown as base layer (too hot).

c. Staff in the room for cannulation: follow UWMC Montlake recommendations for procedural PPE
   i. Two cannulating physicians
   ii. Two nurse ECMO specialists to prepare and manage the ECMO circuit and manage medication pumps and give heparin bolus.
Daily Patient Management:

- A 5SA nurse ECMO specialist will be deployed to this care unit to provide ECMO-specific care and usual bedside nursing duties 24/7. This will be coordinated by the ECMO program manager.
- The CT ICU attending will provide daily ECMO consultation for the patient, will round on the patient (without entering room to save PPE, use facetime with specialists’ ECMO iPhone), write daily ECMO management note (including on day of intiation), and is available to the ECMO specialist 24/7.
- The general critical care management of the patient and placement of all orders will remain with the COVID ICU team (except ECMO powerplan- ordered by CTICU attending). The CT ICU attending will be available for consultation 24/7 and will leave daily ECMO recommendations to COVID ICU team. For more ECMO education: www.corECMO.com.
- The cardiac/thoracic surgery residents are not currently involved with the care of these patients. If a cannula problem arises that cannot be dealt with by the CTICU attending, he/she will consult the thoracic surgery attending on call.
- VV ECMO patients will be DNR.

Important ECMO phone numbers:

ECMO Attending on Call (CTICU attending) *call operator

ECMO Leadership:

1. Jenelle Badulak       215-290-4004
2. Peter von Homeyer    206-307-8125
3. Aaron Cheng          206-719-4080
4. Mike Mulligan        206-369-7541

ECMO Coordinator On Call: **8-6636** (or call operator)

1. Matthew Plourde      203-228-1913
2. Jeff Maggioli        206-999-5320
3. Jenna Nersesyan      253-334-2524