UW Medicine ECMO SUPPORT FOR PATIENTS WITH COVID-19

- Patients with COVID and severe ARDS may be referred to UW Medicine for VV ECMO.
  - Patients must meet stringent inclusion and exclusion criteria to be considered for transfer and each patient will be reviewed on a case-by-case basis. Criteria may be revised over time in order to optimally utilize this scarce resource.
- The UW Medicine ECMO Retrieval Team will not be transporting COVID-19 patients on ECMO.
- The UW Medicine ECMO programs will continue to work with other programs in the Pacific Northwest ECMO Consortium to coordinate resources, exchange experience and knowledge, and potentially develop care guidelines for this patient population.
- The ECMO program leadership and managers will maintain close communication with hospital leadership and ICU staff to continually assess capacity to offer ECMO.

Indications for VV ECMO Referral for COVID-19 ARDS

- Presence of any of the following despite maximal conventional therapy*
  - PaO2:FIO2 <100
  - pH <7.25 with PaCO2 >60
  - Plateau pressure >30 mm Hg
- Maximal conventional therapy:
  - Low tidal volume ventilation
  - PEEP optimization
  - Prone positioning
  - Consideration of inhaled vasodilators
  - Consideration of neuromuscular blockade

Absolute Contraindications for VV ECMO for COVID-19 ARDS

- Age >60
- Prolonged mechanical ventilation >7 days
- Significant chronic comorbidities including: chronic kidney disease, cirrhosis, dementia, disseminated malignancy, systolic heart failure, underlying advanced lung disease (e.g., COPD, ILD, CF), uncontrolled diabetes (e.g., with neuropathy, gastroparesis, retinopathy, etc), severe deconditioning or protein calorie malnutrition, severe peripheral vascular disease, any other pre-existing life-limiting medical condition
- Refractory shock requiring >0.5 mcg/kg/min norepinephrine or equivalent
- Decompensated acute heart failure, i.e., significant septic/stress cardiomyopathy or myocarditis, or massive pulmonary embolism with need for VA ECMO support
- Acute liver injury with synthetic dysfunction (elevated INR)
- Active bleeding and inadequate hemostasis, contraindications to anticoagulation, or inability to accept blood products
- Active intracranial hemorrhage, cerebral vascular accident, poor neurologic exam
- Ongoing CPR / recent cardiac arrest – we will not offer E-CPR for COVID-19 associated cardiac arrest

Relative Contraindications (may become absolute contraindication under institutional-specific resource scarcity, e.g. shortage of staff, beds, supplies)

- Obesity BMI >35
- Immunocompromise
- No DPOA or legal medical decision maker available

Updated: 5/4/20 Badulak, von Homeyer, Cheng, Mulligan, Bulger, Mandell