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☐ Covid-19 Screening & Treatment Algorithm ☒ Covid-19 Policy & Procedure	LAST REVIEWED: 12/24/2020 LAST UPDATED: 12/24/2020	
DOCUMENT OWNER(S): Badulak, von Homeyer, Cheng, Mulligan, Bulger, Mandell		
WEB ADDRESS (URL): https://one.uwmedicine.org/coronavirus/COVID19%20Policy%20Statement%20Library/VV%20ECMO%20COVID-19%20referral%20policy.pdf		

UW Medicine
EXTRACORPOREAL LIFE SUPPORT

UW Medicine VV ECMO SUPPORT FOR PATIENTS WITH COVID-19

Indications for VV ECMO Referral for ARDS

- Presence of any of the following despite maximal conventional therapy*
  - PaO_2:FIO_2 <100
  - pH <7.25 with $PaCO_2$ >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 (COVID-19 and other causes of respiratory failure)

- Advanced active cancer
- Severe acute intracerebral hemorrhage or massive stroke with very poor neurologic prognosis
- End-stage renal disease on dialysis
- Cirrhosis
- Severe irreversible multiorgan failure

Relative Contraindications for VV ECMO (COVID-19 and other causes of respiratory failure)

- Age >65
- Prolonged mechanical ventilation >7-10 days
- Significant chronic comorbidities including: chronic kidney disease, dementia, chronic heart failure, underlying advanced lung disease (e.g., COPD, ILD, CF—asthma is ok), uncontrolled diabetes (e.g., with neuropathy, gastroparesis, retinopathy, etc), severe deconditioning or protein calorie malnutrition, severe morbid obesity, any other pre-existing life-limiting medical condition
- Refractory vasodilatory shock requiring >0.5 mcg/kg/min norepinephrine or equivalent
- 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
- Recent prolonged cardiac arrest
- Immunocompromise
- Cardiogenic shock, i.e., significant septic/stress cardiomyopathy or myocarditis, or massive pulmonary embolism (consider VA ECMO support)

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PNW ECMO Collaborative dashboard status is tied to patient selection:

Dashboard Status	Hospital capacity	Contraindications utilized	Patients eligible
Green	conventional or contingency	Absolute, consider relative	OSH and in-house
Yellow	contingency	Absolute and relative	OSH and in-house
Red	contingency	Absolute and relative	No ECMO cannulation (HMC) In-house only (Montlake)
Black	crisis	No ECMO cannulation	No ECMO cannulation

Green= >1 staffed pump available
Yellow= 1 staffed pump available
Red (HMC)= no staffed pumps available
Red (Montlake)= only two remaining circuits (held in reserve for transplants/cardiac surgery, can only be used for in-house patients)
Black= no further ECMO cannulation