# MGH Treatment Guide for Critically Ill Patients with COVID-19

## Presentation

**Notable SX**
- ~65-80% Cough
- ~45% Febrile initially
- ~15% URI sx
- ~10% GI sx
- Acute worsening after early mild sx

**High Risk for Severe DZ**
- Age >55
- Comorbid diseases:
  - Pulm, cardiac, renal
  - Diabetes, HTN
  - Immunocompromise

**Labs indicating Severe DZ**
- D-dimer >1000
- CPK > 2x ULN
- CRP >100, LDH >245
- Troponin elevated/up trending
- Abs lymphocyte count <0.8
- Ferritin >300

## Respiratory Failure

**Consider Early Intubation**
- **Avoid using HFNC or NIPPV**
- **Warning signs:** incl FiO2, dec SaO2, CXR worse

**Lung Protective Ventilation**
- Vt 4-6 ml/kg predicted body weight
- Plateau pressure <30
- Driving pressure (Pplat-PEEP) <15
- Target SaO2 90-95%, PaO2 >60
- Starting PEEP 8-10 cmH2O

**Conservative Fluid Strategy**
- No maintenance fluids, diuresis as tolerated by hemodynamics/Creatinine

**PEEP Titration**
- Best PEEP by tidal compliance or ARDSnet low PEEP table

**Prone**
- Early consideration if cont. hypoxemia or elevated airway pressures

**Additional Therapies**
- Paralytics for vent dysynchrony, not routine
- Inhaled NO: up to 80 ppm (no epoprostenol)

**If Worsening**
- ECMO Consult if continued hypoxemia or elevated airway pressures

**If Improving**
- Vent Liberation
  - Daily SAT/SBT when appropriate
  - ABCDE bundle

## Hemodynamics

- MAP >65
- Norepinephrine first choice pressor

**If Worsening:**
- Consider myocarditis/cardiogenic shock
- Obtain POCUS echo, EKG, troponin, CVO2 (formal TTE if high concern)

## Change to Usual Care

- **Minimize** staff contact in room
- **NO routine** daily CXR
- **High threshold** for bronchoscopy
- **High threshold** to travel
- **Bundle** bedside procedures
- Appropriate guideline-based isolation for aerosol generating procedures:
  - bronchoscopy
  - intubation/extubation
  - AVOID nebs, prefer MDIs

## Therapeutics

**All ICU Admissions:**
- Low threshold for empiric abx
- Tracheal aspirate for intubated pts

**With ID Guidance:**
- Consider hydroxychloroquine and statin
- Remdesivir through clinical trial

**Immune Modulation**
- Immunomodulatory therapies only in consultation with ID and critical care attending
- **No Steroids** for resp failure, consider only in s/o additional indication

## Pager Numbers

- ICU Consult: 26955
- ECMO: 24252
- BioThreats: 26876