COVID-19 ICU MANAGEMENT

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Neurology

- Sedation management -encourage use of fentanyl and propofol
- Check TG every 2d – component of hypertriglyceridemia related to cytokine storm
- Discontinue propofol if TG > 500
- Use oral adjunctive agents – scheduled oxycodone, methadone, alprazolam, clonazepam, quetiapine early
- Deep level of sedation when proning
- Patients can be proned with or without paralytics (can give a push of rocuronium or cistatracurium when preparing to prone)

Respiratory

- Use HHFNC early for hypoxia, intubate early if increased WOB to prevent worsening of lung injury with shifting intrathoracic pressure
- Use non-mechanical ventilation Prone protocol early when possible
- In select cases use Bi-pap and re-evaluate often for intubation
- Follow low PEEP/high FiO_2 ARDSNEt protocol
- Early proning – within 8-12hrs after intubation if PF ratio <150 on PEEP at around $10cmH_20$ and FiO_2 > 60% usually adequate.
- Target 6ml/kg of PBW of TV, follow Plat pressure (<$30cmH_20$).
- Follow driving pressure in morbidly obese patients to titrate PEEP (Driving pressure <$15cmH_20$)
- Trach by day 14-18

Cardiovascular

- Cardiomyopathy suspected – obtain VBG from PICC/CVC to check $SCVO_2$
- Obtain ECHO in patients you suspect cardiomyopathy
- In patients with low EF and low $SCVO_2$ with clinical suspicion for cardiogenic shock consider inotropes
- Bradycardia common in these patients due to COVID-19 – may need to consider alternate sedative choices if profound (avoid dexmedetomidine)
- Worsening hemodynamics consider MI – obtain EKG

GI

- Early enteral nutrition
- Can feed patient gastric or post-pyloric when proned as long as they tolerate
- If not tolerating enteral feeds in prone position – decrease goal when prone or place DHT post-pyloric
- Aggressive bowel regimen upfront – high rates of opioid induced ileus/constipation
- Late onset of pancreatitis in these patients – present w/N&V and abdominal pain

Nephrology

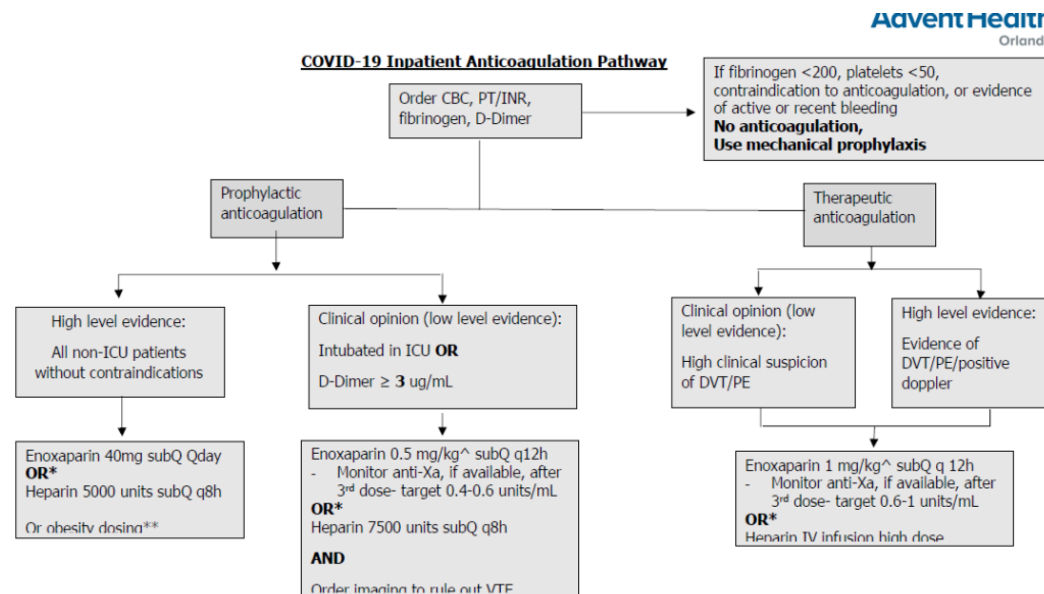
- Maintain euvolemia or slightly negative balance daily to prevent AKI
- More aggressive diuresis once closer to extubation (targeting negative 1-2L/day)
- Trend CPK/CK every 48-72hrs some patients develop rhabdomyolysis

Endocrine

- Hyperglycemia common in these patients with concomitant steroid use
- In non-diabetics/insulin naïve – use NPH with steroids + SSI
- In diabetics on insulin – increase basal dose or glucommander if BG > 250mg/dL
- Early transition off glucommander to minimize exposure

Hematology

- DVT prophylaxis for all hospitalized patients unless contraindicated
  - Use higher doses in morbidly obese patients (BMI >40 or ABW >120kg)
- Trend D-dimers in hospitalized patients (every 48-72hrs)
- Anticoagulation protocol available on Dorsata APP



Infectious Disease

- AdventHealth treatment algorithm for COVID19 available on Dorsata App (https://pathways.dorsata.com/client?user_email=adventhealthreader@dorsata.com&user_token=omrJRkBnpTqqUHzgWt2B#/content_collections/73/view)
- Early steroids in intubated patients or those requiring supplemental oxygen (initial 7-10d of steroids)
- Remdesevir for patients on supplemental oxygen and symptomatic or intubated (requested from DOH)
- Consider convalescent plasma in symptomatic patients on supplemental oxygen or intubated
- Consider use of IL-6 inhibitor (Tociluzimab or Sarilumab) in intubated patients with the following criteria
  - Severity score ≥ 6
  - Severity score 4 or 5 with high risk of cytokine storm (at least 2 of the following features)
    - IL-6 ≥3x upper normal limit [If IL-6 level not available, may use CRP as a marker (≥ 100 mg/L)]
    - Ferritin >300 ug/L with doubling within 24 hours
    - Ferritin >600 ug/L at presentation and LDH >250
    - D-dimer >1 mg/L

Cytokine storm